SEQUENCE LISTING

<110> Bayer AG

<120> METHODS AND COMPOSITIONS FOR THE PREDICTION, DIAGNOSIS, PROGNOSIS, PREVENTION AND TREATMENT OF MALIGNANT NEOPLASIA

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Val Gln Ile Ala Ala Ser Glu Lys Leu Ala Gln Cys Pro Pro Glu Met
    370                 375                 380
Phe Asp Ile Ile Leu Asp Glu Asn Gln Leu Glu Asp Ala Cys Glu His
385                 390                 395                 400
Leu Ala Glu Tyr Leu Glu Ala Tyr Trp Lys Ala Thr His Pro Pro Ser
                405                 410                 415
Ser Thr Pro Pro Asn Pro Leu Leu Asn Arg Thr Met Ala Thr Ala Ala
            420                 425                 430
Leu Arg Arg Ser Pro Ala Pro Val Ser Asn Leu Gln Val Gln Val Leu
        435                 440                 445
Thr Ser Leu Arg Arg Asn Leu Gly Phe Trp Gly Gly Leu Glu Ser Ser
    450                 455                 460
```

Gln Arg Gly Ser Val Val Pro Gln Glu Gln Glu His Ala Met
465 470 475

<210> 29

<211> 196

<212> PRT

<213> Homo sapiens

<400> 29
Met Ser Met Leu Arg Leu Gln Lys Arg Leu Ala Ser Ser Val Leu Arg
1 5 10 15
Cys Gly Lys Lys Lys Val Trp Leu Asp Pro Asn Glu Thr Asn Glu Ile
20 25 30
Ala Asn Ala Asn Ser Arg Gln Gln Ile Arg Lys Leu Ile Lys Asp Gly
35 40 45
Leu Ile Ile Arg Lys Pro Val Thr Val His Ser Arg Ala Arg Cys Arg
50 55 60
Lys Asn Thr Leu Ala Arg Arg Lys Gly Arg His Met Gly Ile Gly Lys
65 70 75 80
Arg Lys Gly Thr Ala Asn Ala Arg Met Pro Glu Lys Val Thr Trp Met
85 90 95
Arg Arg Met Arg Ile Leu Arg Arg Leu Leu Arg Arg Tyr Arg Glu Ser
100 105 110
Lys Lys Ile Asp Arg His Met Tyr His Ser Leu Tyr Leu Lys Val Lys
115 120 125
Gly Asn Val Phe Lys Asn Lys Arg Ile Leu Met Glu His Ile His Lys
130 135 140
Leu Lys Ala Asp Lys Ala Arg Lys Lys Leu Leu Ala Asp Gln Ala Glu
145 150 155 160
Ala Arg Arg Ser Lys Thr Lys Glu Ala Arg Lys Arg Arg Glu Glu Arg
165 170 175
Leu Gln Ala Lys Lys Glu Glu Ile Ile Lys Thr Leu Ser Lys Glu Glu
180 185 190
Glu Thr Lys Lys
195

<210> 30

<211> 1566

<212> PRT

<213> Homo sapiens

<400> 30
Met Ser Ser Leu Leu Glu Arg Leu His Ala Lys Phe Asn Gln Asn Arg
1 5 10 15
Pro Trp Ser Glu Thr Ile Lys Leu Val Arg Gln Val Met Glu Lys Arg
20 25 30
Val Val Met Ser Ser Gly Gly His Gln His Leu Val Ser Cys Leu Glu
35 40 45
Thr Leu Gln Lys Ala Leu Lys Val Thr Ser Leu Pro Ala Met Thr Asp
50 55 60
Arg Leu Glu Ser Ile Ala Gly Gln Asn Gly Leu Gly Ser His Leu Ser
65 70 75 80
Ala Ser Gly Thr Glu Cys Tyr Ile Thr Ser Asp Met Phe Tyr Val Glu
85 90 95
Val Gln Leu Asp Pro Ala Gly Gln Leu Cys Asp Val Lys Val Ala His
100 105 110
His Gly Glu Asn Pro Val Ser Cys Pro Glu Leu Val Gln Gln Leu Arg
115 120 125

```
Glu Lys Asn Ser Asp Glu Phe Ser Lys His Leu Lys Gly Leu Val Asn
    130                 135                 140
Leu Tyr Asn Leu Pro Gly Asp Asn Lys Leu Lys Thr Lys Met Tyr Leu
145                 150                 155                 160
Ala Leu Gln Ser Leu Glu Gln Asp Leu Ser Lys Met Ala Ile Met Tyr
                165                 170                 175
Trp Lys Ala Thr Asn Ala Gly Pro Leu Asp Lys Ile Leu His Gly Ser
            180                 185                 190
Val Gly Tyr Leu Thr Pro Arg Ser Gly Gly His Leu Met Asn Leu Lys
        195                 200                 205
Tyr Tyr Val Ser Pro Ser Asp Leu Leu Asp Asp Lys Thr Ala Ser Pro
    210                 215                 220
Ile Ile Leu His Glu Asn Asn Val Ser Arg Ser Leu Gly Met Asn Ala
225                 230                 235                 240
Ser Val Thr Ile Glu Gly Thr Ser Ala Val Tyr Lys Leu Pro Ile Ala
                245                 250                 255
Pro Leu Ile Met Gly Ser His Pro Val Asp Asn Lys Trp Thr Pro Ser
            260                 265                 270
Phe Ser Ser Ile Thr Ser Ala Asn Ser Val Asp Leu Pro Ala Cys Phe
        275                 280                 285
Phe Leu Lys Phe Pro Gln Pro Ile Pro Val Ser Arg Ala Phe Val Gln
    290                 295                 300
Lys Leu Gln Asn Cys Thr Gly Ile Pro Leu Phe Glu Thr Gln Pro Thr
305                 310                 315                 320
Tyr Ala Pro Leu Tyr Glu Leu Ile Thr Gln Phe Glu Leu Ser Lys Asp
                325                 330                 335
Pro Asp Pro Ile Pro Leu Asn His Asn Met Arg Phe Tyr Ala Ala Leu
            340                 345                 350
Pro Gly Gln Gln His Cys Tyr Phe Leu Asn Lys Asp Ala Pro Leu Pro
        355                 360                 365
Asp Gly Arg Ser Leu Gln Gly Thr Leu Val Ser Lys Ile Thr Phe Gln
    370                 375                 380
His Pro Gly Arg Val Pro Leu Ile Leu Asn Leu Ile Arg His Gln Val
385                 390                 395                 400
Ala Tyr Asn Thr Leu Ile Gly Ser Cys Val Lys Arg Thr Ile Leu Lys
                405                 410                 415
Glu Asp Ser Pro Gly Leu Leu Gln Phe Glu Val Cys Pro Leu Ser Glu
            420                 425                 430
Ser Arg Phe Ser Val Ser Phe Gln His Pro Val Asn Asp Ser Leu Val
        435                 440                 445
Cys Val Val Met Asp Val Gln Gly Leu Thr His Val Ser Cys Lys Leu
    450                 455                 460
Tyr Lys Gly Leu Ser Asp Ala Leu Ile Cys Thr Asp Asp Phe Ile Ala
465                 470                 475                 480
Lys Val Val Gln Arg Cys Met Ser Ile Pro Val Thr Met Arg Ala Ile
                485                 490                 495
Arg Arg Lys Ala Glu Thr Ile Gln Ala Asp Thr Pro Ala Leu Ser Leu
            500                 505                 510
Ile Ala Glu Thr Val Glu Asp Met Val Lys Lys Asn Leu Pro Pro Ala
        515                 520                 525
Ser Ser Pro Gly Tyr Gly Met Thr Thr Gly Asn Asn Pro Met Ser Gly
    530                 535                 540
Thr Thr Thr Ser Thr Asn Thr Phe Pro Gly Gly Pro Ile Ala Thr Leu
545                 550                 555                 560
Phe Asn Met Ser Met Ser Ile Lys Asp Arg His Glu Ser Val Gly His
                565                 570                 575
Gly Glu Asp Phe Ser Lys Val Ser Gln Asn Pro Ile Leu Thr Ser Leu
            580                 585                 590
Leu Gln Ile Thr Gly Asn Gly Gly Ser Thr Ile Gly Ser Ser Pro Thr
        595                 600                 605
Pro Pro His His Thr Pro Pro Pro Val Ser Ser Met Ala Gly Asn Thr
    610                 615                 620
Lys Asn His Pro Met Leu Met Asn Leu Leu Lys Asp Asn Pro Ala Gln
625                 630                 635                 640
Asp Phe Ser Thr Leu Tyr Gly Ser Ser Pro Leu Glu Arg Gln Asn Ser
                645                 650                 655
```

```
Ser Ser Gly Ser Pro Arg Met Glu Ile Cys Ser Gly Ser Asn Lys Thr
            660                 665                 670
Lys Lys Lys Lys Ser Ser Arg Leu Pro Pro Glu Lys Pro Lys His Gln
        675                 680                 685
Thr Glu Asp Asp Phe Gln Arg Glu Leu Phe Ser Met Asp Val Asp Ser
    690                 695                 700
Gln Asn Pro Ile Phe Asp Val Asn Met Thr Ala Asp Thr Leu Asp Thr
705                 710                 715                 720
Pro His Ile Thr Pro Ala Pro Ser Gln Cys Ser Thr Pro Pro Thr Thr
                725                 730                 735
Tyr Pro Gln Pro Val Pro His Pro Gln Pro Ser Ile Gln Arg Met Val
            740                 745                 750
Arg Leu Ser Ser Ser Asp Ser Ile Gly Pro Asp Val Thr Asp Ile Leu
        755                 760                 765
Ser Asp Ile Ala Glu Glu Ala Ser Lys Leu Pro Ser Thr Ser Asp Asp
    770                 775                 780
Cys Pro Ala Ile Gly Thr Pro Leu Arg Asp Ser Ser Ser Ser Gly His
785                 790                 795                 800
Ser Gln Ser Thr Leu Phe Asp Ser Asp Val Phe Gln Thr Asn Asn Asn
                805                 810                 815
Glu Asn Pro Tyr Thr Asp Pro Ala Asp Leu Ile Ala Asp Ala Ala Gly
            820                 825                 830
Ser Pro Ser Ser Asp Ser Pro Thr Asn His Phe Phe His Asp Gly Val
        835                 840                 845
Asp Phe Asn Pro Asp Leu Leu Asn Ser Gln Ser Gln Ser Gly Phe Gly
    850                 855                 860
Glu Glu Tyr Phe Asp Glu Ser Ser Gln Ser Gly Asp Asn Asp Asp Phe
865                 870                 875                 880
Lys Gly Phe Ala Ser Gln Ala Leu Asn Thr Leu Gly Val Pro Met Leu
                885                 890                 895
Gly Gly Asp Asn Gly Glu Thr Lys Phe Lys Gly Asn Asn Gln Ala Asp
            900                 905                 910
Thr Val Asp Phe Ser Ile Ile Ser Val Ala Gly Lys Ala Leu Ala Pro
        915                 920                 925
Ala Asp Leu Met Glu His His Ser Gly Ser Gln Gly Pro Leu Leu Thr
    930                 935                 940
Thr Gly Asp Leu Gly Lys Glu Lys Thr Gln Lys Arg Val Lys Glu Gly
945                 950                 955                 960
Asn Gly Thr Ser Asn Ser Thr Leu Ser Gly Pro Gly Leu Asp Ser Lys
                965                 970                 975
Pro Gly Lys Arg Ser Arg Thr Pro Ser Asn Asp Gly Lys Ser Lys Asp
            980                 985                 990
Lys Pro Pro Lys Arg Lys Lys Ala  Asp Thr Glu Gly Lys  Ser Pro Ser
        995                 1000                1005
His Ser  Ser Ser Asn Arg Pro  Phe Thr Pro Pro Thr  Ser Thr Gly
    1010                1015                1020
Gly Ser  Lys Ser Pro Gly Ser  Ala Gly Arg Ser Gln  Thr Pro Pro
    1025                1030                1035
Gly Val  Ala Thr Pro Pro Ile  Pro Lys Ile Thr Ile  Gln Ile Pro
    1040                1045                1050
Lys Gly  Thr Val Met Val Gly  Lys Pro Ser Ser His  Ser Gln Tyr
    1055                1060                1065
Thr Ser  Ser Gly Ser Val Ser  Ser Ser Gly Ser Lys  Ser His His
    1070                1075                1080
Ser His  Ser Ser Ser Ser Ser  Ser Ser Ala Ser Thr  Ser Gly Lys
    1085                1090                1095
Met Lys  Ser Ser Lys Ser Glu  Gly Ser Ser Ser Ser  Lys Leu Ser
    1100                1105                1110
Ser Ser  Met Tyr Ser Ser Gln  Gly Ser Ser Gly Ser  Ser Gln Ser
    1115                1120                1125
Lys Asn  Ser Ser Gln Ser Gly  Gly Lys Pro Gly Ser  Ser Pro Ile
    1130                1135                1140
Thr Lys  His Gly Leu Ser Ser  Gly Ser Ser Ser Thr  Lys Met Lys
    1145                1150                1155
Pro Gln  Gly Lys Pro Ser Ser  Leu Met Asn Pro Ser  Leu Ser Lys
    1160                1165                1170
```

Pro Asn Ile Ser Pro Ser His Ser Arg Pro Pro Gly Gly Ser Asp
1175 1180 1185
Lys Leu Ala Ser Pro Met Lys Pro Val Pro Gly Thr Pro Pro Ser
1190 1195 1200
Ser Lys Ala Lys Ser Pro Ile Ser Ser Gly Ser Gly Gly Ser His
1205 1210 1215
Met Ser Gly Thr Ser Ser Ser Ser Gly Met Lys Ser Ser Ser Gly
1220 1225 1230
Leu Gly Ser Ser Gly Ser Leu Ser Gln Lys Thr Pro Pro Ser Ser
1235 1240 1245
Asn Ser Cys Thr Ala Ser Ser Ser Ser Phe Ser Ser Ser Gly Ser
1250 1255 1260
Ser Met Ser Ser Ser Gln Asn Gln His Gly Ser Ser Lys Gly Lys
1265 1270 1275
Ser Pro Ser Arg Asn Lys Lys Pro Ser Leu Thr Ala Val Ile Asp
1280 1285 1290
Lys Leu Lys His Gly Val Val Thr Ser Gly Pro Gly Gly Glu Asp
1295 1300 1305
Pro Leu Asp Gly Gln Met Gly Val Ser Thr Asn Ser Ser Ser His
1310 1315 1320
Pro Met Ser Ser Lys His Asn Met Ser Gly Gly Glu Phe Gln Gly
1325 1330 1335
Lys Arg Glu Lys Ser Asp Lys Asp Lys Ser Lys Val Ser Thr Ser
1340 1345 1350
Gly Ser Ser Val Asp Ser Ser Lys Lys Thr Ser Glu Ser Lys Asn
1355 1360 1365
Val Gly Ser Thr Gly Val Ala Lys Ile Ile Ile Ser Lys His Asp
1370 1375 1380
Gly Gly Ser Pro Ser Ile Lys Ala Lys Val Thr Leu Gln Lys Pro
1385 1390 1395
Gly Glu Ser Ser Gly Glu Gly Leu Arg Pro Gln Met Ala Ser Ser
1400 1405 1410
Lys Asn Tyr Gly Ser Pro Leu Ile Ser Gly Ser Thr Pro Lys His
1415 1420 1425
Glu Arg Gly Ser Pro Ser His Ser Lys Ser Pro Ala Tyr Thr Pro
1430 1435 1440
Gln Asn Leu Asp Ser Glu Ser Glu Ser Gly Ser Ser Ile Ala Glu
1445 1450 1455
Lys Ser Tyr Gln Asn Ser Pro Ser Ser Asp Asp Gly Ile Arg Pro
1460 1465 1470
Leu Pro Glu Tyr Ser Thr Glu Lys His Lys Lys His Lys Lys Glu
1475 1480 1485
Lys Lys Lys Val Lys Asp Lys Asp Arg Asp Arg Asp Arg Asp Lys
1490 1495 1500
Asp Arg Asp Lys Lys Lys Ser His Ser Ile Lys Pro Glu Ser Trp
1505 1510 1515
Ser Lys Ser Pro Ile Ser Ser Asp Gln Ser Leu Ser Met Thr Ser
1520 1525 1530
Asn Thr Ile Leu Ser Ala Asp Arg Pro Ser Arg Leu Ser Pro Asp
1535 1540 1545
Phe Met Ile Gly Glu Glu Asp Asp Asp Leu Met Asp Val Ala Leu
1550 1555 1560
Ile Gly Asn
1565

<210> 31

<211> 1490

<212> PRT

<213> Homo sapiens

<400> 31

```
Met Pro Asn Ser Glu Arg His Gly Gly Lys Lys Asp Gly Ser Gly Gly
1               5                  10                  15
Ala Ser Gly Thr Leu Gln Pro Ser Ser Gly Gly Gly Ser Ser Asn Ser
            20                  25                  30
Arg Glu Arg His Arg Leu Val Ser Lys His Lys Arg His Lys Ser Lys
        35                  40                  45
His Ser Lys Asp Met Gly Leu Val Thr Pro Glu Ala Ala Ser Leu Gly
    50                  55                  60
Thr Val Ile Lys Pro Leu Val Glu Tyr Asp Asp Ile Ser Ser Asp Ser
65                  70                  75                  80
Asp Thr Phe Ser Asp Asp Met Ala Phe Lys Leu Asp Arg Arg Glu Asn
                85                  90                  95
Asp Glu Arg Arg Gly Ser Asp Arg Ser Asp Arg Leu His Lys His Arg
            100                 105                 110
His His Gln His Arg Arg Ser Arg Asp Leu Leu Lys Ala Lys Gln Thr
        115                 120                 125
Glu Lys Glu Lys Ser Gln Glu Val Ser Ser Lys Ser Gly Ser Met Lys
    130                 135                 140
Asp Arg Ile Ser Gly Ser Ser Lys Arg Ser Asn Glu Glu Thr Asp Asp
145                 150                 155                 160
Tyr Gly Lys Ala Gln Val Ala Lys Ser Ser Ser Lys Glu Ser Arg Ser
                165                 170                 175
Ser Lys Leu His Lys Glu Lys Thr Arg Lys Glu Arg Glu Leu Lys Ser
            180                 185                 190
Gly His Lys Asp Arg Ser Lys Ser His Arg Lys Arg Glu Thr Pro Lys
        195                 200                 205
Ser Tyr Lys Thr Val Asp Ser Pro Lys Arg Arg Ser Arg Ser Pro His
    210                 215                 220
Arg Lys Trp Ser Asp Ser Ser Lys Gln Asp Asp Ser Pro Ser Gly Ala
225                 230                 235                 240
Ser Tyr Gly Gln Asp Tyr Asp Leu Ser Pro Ser Arg Ser His Thr Ser
                245                 250                 255
Ser Asn Tyr Asp Ser Tyr Lys Lys Ser Pro Gly Ser Thr Ser Arg Arg
            260                 265                 270
Gln Ser Val Ser Pro Pro Tyr Lys Glu Pro Ser Ala Tyr Gln Ser Ser
        275                 280                 285
Thr Arg Ser Pro Ser Pro Tyr Ser Arg Arg Gln Arg Ser Val Ser Pro
    290                 295                 300
Tyr Ser Arg Arg Arg Ser Ser Ser Tyr Glu Arg Ser Gly Ser Tyr Ser
305                 310                 315                 320
Gly Arg Ser Pro Ser Pro Tyr Gly Arg Arg Arg Ser Ser Ser Pro Phe
                325                 330                 335
Leu Ser Lys Arg Ser Leu Ser Arg Ser Pro Leu Pro Ser Arg Lys Ser
            340                 345                 350
Met Lys Ser Arg Ser Arg Ser Pro Ala Tyr Ser Arg His Ser Ser Ser
        355                 360                 365
His Ser Lys Lys Lys Arg Ser Ser Ser Arg Ser Arg His Ser Ser Ile
    370                 375                 380
Ser Pro Val Arg Leu Pro Leu Asn Ser Ser Leu Gly Ala Glu Leu Ser
385                 390                 395                 400
Arg Lys Lys Lys Glu Arg Ala Ala Ala Ala Ala Ala Ala Lys Met Asp
                405                 410                 415
Gly Lys Glu Ser Lys Gly Ser Pro Val Phe Leu Pro Arg Lys Glu Asn
            420                 425                 430
Ser Ser Val Glu Ala Lys Asp Ser Gly Leu Glu Ser Lys Lys Leu Pro
        435                 440                 445
Arg Ser Val Lys Leu Glu Lys Ser Ala Pro Asp Thr Glu Leu Val Asn
    450                 455                 460
Val Thr His Leu Asn Thr Glu Val Lys Asn Ser Ser Asp Thr Gly Lys
465                 470                 475                 480
Val Lys Leu Asp Glu Asn Ser Glu Lys His Leu Val Lys Asp Leu Lys
                485                 490                 495
Ala Gln Gly Thr Arg Asp Ser Lys Pro Ile Ala Leu Lys Glu Glu Ile
            500                 505                 510
```

Val Thr Pro Lys Glu Thr Glu Thr Ser Glu Lys Glu Thr Pro Pro Pro
515 520 525
Leu Pro Thr Ile Ala Ser Pro Pro Pro Pro Leu Pro Thr Thr Thr Pro
530 535 540
Pro Pro Gln Thr Pro Pro Leu Pro Pro Leu Pro Pro Ile Pro Ala Leu
545 550 555 560
Pro Gln Gln Pro Pro Leu Pro Pro Ser Gln Pro Ala Phe Ser Gln Val
565 570 575
Pro Ala Ser Ser Thr Ser Thr Leu Pro Pro Ser Thr His Ser Lys Thr
580 585 590
Ser Ala Val Ser Ser Gln Ala Asn Ser Gln Pro Pro Val Gln Val Ser
595 600 605
Val Lys Thr Gln Val Ser Val Thr Ala Ala Ile Pro His Leu Lys Thr
610 615 620
Ser Thr Leu Pro Pro Leu Pro Leu Pro Pro Leu Leu Pro Gly Gly Asp
625 630 635 640
Asp Met Asp Ser Pro Lys Glu Thr Leu Pro Ser Lys Pro Val Lys Lys
645 650 655
Glu Lys Glu Gln Arg Thr Arg His Leu Leu Thr Asp Leu Pro Leu Pro
660 665 670
Pro Glu Leu Pro Gly Gly Asp Leu Ser Pro Pro Asp Ser Pro Glu Pro
675 680 685
Lys Ala Ile Thr Pro Pro Gln Gln Pro Tyr Lys Lys Arg Pro Lys Ile
690 695 700
Cys Cys Pro Arg Tyr Gly Glu Arg Arg Gln Thr Glu Ser Asp Trp Gly
705 710 715 720
Lys Arg Cys Val Asp Lys Phe Asp Ile Ile Gly Ile Ile Gly Glu Gly
725 730 735
Thr Tyr Gly Gln Val Tyr Lys Ala Arg Asp Lys Asp Thr Gly Glu Leu
740 745 750
Val Ala Leu Lys Lys Val Arg Leu Asp Asn Glu Lys Glu Gly Phe Pro
755 760 765
Ile Thr Ala Ile Arg Glu Ile Lys Ile Leu Arg Gln Leu Ile His Arg
770 775 780
Ser Val Val Asn Met Lys Glu Ile Val Thr Asp Lys Gln Asp Ala Leu
785 790 795 800
Asp Phe Lys Lys Asp Lys Gly Ala Phe Tyr Leu Val Phe Glu Tyr Met
805 810 815
Asp His Asp Leu Met Gly Leu Leu Glu Ser Gly Leu Val His Phe Ser
820 825 830
Glu Asp His Ile Lys Ser Phe Met Lys Gln Leu Met Glu Gly Leu Glu
835 840 845
Tyr Cys His Lys Lys Asn Phe Leu His Arg Asp Ile Lys Cys Ser Asn
850 855 860
Ile Leu Leu Asn Asn Ser Gly Gln Ile Lys Leu Ala Asp Phe Gly Leu
865 870 875 880
Ala Arg Leu Tyr Asn Ser Glu Glu Ser Arg Pro Tyr Thr Asn Lys Val
885 890 895
Ile Thr Leu Trp Tyr Arg Pro Pro Glu Leu Leu Leu Gly Glu Glu Arg
900 905 910
Tyr Thr Pro Ala Ile Asp Val Trp Ser Cys Gly Cys Ile Leu Gly Glu
915 920 925
Leu Phe Thr Lys Lys Pro Ile Phe Gln Ala Asn Leu Glu Leu Ala Gln
930 935 940
Leu Glu Leu Ile Ser Arg Leu Cys Gly Ser Pro Cys Pro Ala Val Trp
945 950 955 960
Pro Asp Val Ile Lys Leu Pro Tyr Phe Asn Thr Met Lys Pro Lys Lys
965 970 975
Gln Tyr Arg Arg Arg Leu Arg Glu Glu Phe Ser Phe Ile Pro Ser Ala
980 985 990
Ala Leu Asp Leu Leu Asp His Met Leu Thr Leu Asp Pro Ser Lys Arg
995 1000 1005
Cys Thr Ala Glu Gln Thr Leu Gln Ser Asp Phe Leu Lys Asp Val
1010 1015 1020
Glu Leu Ser Lys Met Ala Pro Pro Asp Leu Pro His Trp Gln Asp
1025 1030 1035

Cys His Glu Leu Trp Ser Lys Lys Arg Arg Arg Gln Arg Gln Ser
1040 1045 1050
Gly Val Val Val Glu Glu Pro Pro Pro Ser Lys Thr Ser Arg Lys
1055 1060 1065
Glu Thr Thr Ser Gly Thr Ser Thr Glu Pro Val Lys Asn Ser Ser
1070 1075 1080
Pro Ala Pro Pro Gln Pro Ala Pro Gly Lys Val Glu Ser Gly Ala
1085 1090 1095
Gly Asp Ala Ile Gly Leu Ala Asp Ile Thr Gln Gln Leu Asn Gln
1100 1105 1110
Ser Glu Leu Ala Val Leu Leu Asn Leu Leu Gln Ser Gln Thr Asp
1115 1120 1125
Leu Ser Ile Pro Gln Met Ala Gln Leu Leu Asn Ile His Ser Asn
1130 1135 1140
Pro Glu Met Gln Gln Gln Leu Glu Ala Leu Asn Gln Ser Ile Ser
1145 1150 1155
Ala Leu Thr Glu Ala Thr Ser Gln Gln Gln Asp Ser Glu Thr Met
1160 1165 1170
Ala Pro Glu Glu Ser Leu Lys Glu Ala Pro Ser Ala Pro Val Ile
1175 1180 1185
Leu Pro Ser Ala Glu Gln Met Thr Leu Glu Ala Ser Ser Thr Pro
1190 1195 1200
Ala Asp Met Gln Asn Ile Leu Ala Val Leu Leu Ser Gln Leu Met
1205 1210 1215
Lys Thr Gln Glu Pro Ala Gly Ser Leu Glu Glu Asn Asn Ser Asp
1220 1225 1230
Lys Asn Ser Gly Pro Gln Gly Pro Arg Arg Thr Pro Thr Met Pro
1235 1240 1245
Gln Glu Glu Ala Ala Ala Cys Pro Pro His Ile Leu Pro Pro Glu
1250 1255 1260
Lys Arg Pro Pro Glu Pro Pro Gly Pro Pro Pro Pro Pro Pro Pro
1265 1270 1275
Pro Pro Leu Val Glu Gly Asp Leu Ser Ser Ala Pro Gln Glu Leu
1280 1285 1290
Asn Pro Ala Val Thr Ala Ala Leu Leu Gln Leu Leu Ser Gln Pro
1295 1300 1305
Glu Ala Glu Pro Pro Gly His Leu Pro His Glu His Gln Ala Leu
1310 1315 1320
Arg Pro Met Glu Tyr Ser Thr Arg Pro Arg Pro Asn Arg Thr Tyr
1325 1330 1335
Gly Asn Thr Asp Gly Pro Glu Thr Gly Phe Ser Ala Ile Asp Thr
1340 1345 1350
Asp Glu Arg Asn Ser Gly Pro Ala Leu Thr Glu Ser Leu Val Gln
1355 1360 1365
Thr Leu Val Lys Asn Arg Thr Phe Ser Gly Ser Leu Ser His Leu
1370 1375 1380
Gly Glu Ser Ser Ser Tyr Gln Gly Thr Gly Ser Val Gln Phe Pro
1385 1390 1395
Gly Asp Gln Asp Leu Arg Phe Ala Arg Val Pro Leu Ala Leu His
1400 1405 1410
Pro Val Val Gly Gln Pro Phe Leu Lys Ala Glu Gly Ser Ser Asn
1415 1420 1425
Ser Val Val His Ala Glu Thr Lys Leu Gln Asn Tyr Gly Glu Leu
1430 1435 1440
Gly Pro Gly Thr Thr Gly Ala Ser Ser Ser Gly Ala Gly Leu His
1445 1450 1455
Trp Gly Gly Pro Thr Gln Ser Ser Ala Tyr Gly Lys Leu Tyr Arg
1460 1465 1470
Gly Pro Thr Arg Val Pro Pro Arg Gly Gly Arg Gly Arg Gly Val
1475 1480 1485
Pro Tyr
1490

<210> 32

<211> 381

<212> PRT

<213> Homo sapiens

<400> 32

```
Met Leu Thr Arg Leu Phe Ser Glu Pro Gly Leu Leu Ser Asp Val Pro
1               5                  10                  15
Lys Phe Ala Ser Trp Gly Asp Gly Glu Asp Asp Glu Pro Arg Ser Asp
            20                  25                  30
Lys Gly Asp Ala Pro Pro Pro Pro Pro Pro Ala Pro Gly Pro Gly Ala
        35                  40                  45
Pro Gly Pro Ala Arg Ala Ala Lys Pro Val Pro Leu Arg Gly Glu Glu
    50                  55                  60
Gly Thr Glu Ala Thr Leu Ala Glu Val Lys Glu Glu Gly Glu Leu Gly
65                  70                  75                  80
Gly Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Gly Leu Asp Glu Ala
                85                  90                  95
Glu Gly Glu Arg Pro Lys Lys Arg Gly Pro Lys Lys Arg Lys Met Thr
            100                 105                 110
Lys Ala Arg Leu Glu Arg Ser Lys Leu Arg Arg Gln Lys Ala Asn Ala
        115                 120                 125
Arg Glu Arg Asn Arg Met His Asp Leu Asn Ala Ala Leu Asp Asn Leu
    130                 135                 140
Arg Lys Val Val Pro Cys Tyr Ser Lys Thr Gln Lys Leu Ser Lys Ile
145                 150                 155                 160
Glu Thr Leu Arg Leu Ala Lys Asn Tyr Ile Trp Ala Leu Ser Glu Ile
                165                 170                 175
Leu Arg Ser Gly Lys Arg Pro Asp Leu Val Ser Tyr Val Gln Thr Leu
            180                 185                 190
Cys Lys Gly Leu Ser Gln Pro Thr Thr Asn Leu Val Ala Gly Cys Leu
        195                 200                 205
Gln Leu Asn Ser Arg Asn Phe Leu Thr Glu Gln Gly Ala Asp Gly Ala
    210                 215                 220
Gly Arg Phe His Gly Ser Gly Gly Pro Phe Ala Met His Pro Tyr Pro
225                 230                 235                 240
Tyr Pro Cys Ser Arg Leu Ala Gly Ala Gln Cys Gln Ala Ala Gly Gly
                245                 250                 255
Leu Gly Gly Gly Ala Ala His Ala Leu Arg Thr His Gly Tyr Cys Ala
            260                 265                 270
Ala Tyr Glu Thr Leu Tyr Ala Ala Ala Gly Gly Gly Gly Ala Ser Pro
        275                 280                 285
Asp Tyr Asn Ser Ser Glu Tyr Glu Gly Pro Leu Ser Pro Pro Leu Cys
    290                 295                 300
Leu Asn Gly Asn Phe Ser Leu Lys Gln Asp Ser Ser Pro Asp His Glu
305                 310                 315                 320
Lys Ser Tyr His Tyr Ser Met His Tyr Ser Ala Leu Pro Gly Ser Arg
                325                 330                 335
His Gly His Gly Leu Val Phe Gly Ser Ser Ala Val Arg Gly Gly Val
            340                 345                 350
His Ser Glu Asn Leu Leu Ser Tyr Asp Met His Leu His His Asp Arg
        355                 360                 365
Gly Pro Met Tyr Glu Glu Leu Asn Ala Phe Phe His Asn
    370                 375                 380
```

<210> 33

<211> 445

<212> PRT

<213> Homo sapiens

<400> 33

```
Met Ser Lys Leu Pro Arg Glu Leu Thr Arg Asp Leu Glu Arg Ser Leu
1               5                  10                  15
Pro Ala Val Ala Ser Leu Gly Ser Ser Leu Ser His Ser Gln Ser Leu
            20                  25                  30
Ser Ser His Leu Leu Pro Pro Pro Glu Lys Arg Arg Ala Ile Ser Asp
        35                  40                  45
Val Arg Arg Thr Phe Cys Leu Phe Val Thr Phe Asp Leu Leu Phe Ile
    50                  55                  60
Ser Leu Leu Trp Ile Ile Glu Leu Asn Thr Asn Thr Gly Ile Arg Lys
65                  70                  75                  80
Asn Leu Glu Gln Glu Ile Ile Gln Tyr Asn Phe Lys Thr Ser Phe Phe
                85                  90                  95
Asp Ile Phe Val Leu Ala Phe Phe Arg Phe Ser Gly Leu Leu Leu Gly
            100                 105                 110
Tyr Ala Val Leu Gln Leu Arg His Trp Trp Val Ile Ala Val Thr Thr
        115                 120                 125
Leu Val Ser Ser Ala Phe Leu Ile Val Lys Val Ile Leu Ser Glu Leu
    130                 135                 140
Leu Ser Lys Gly Ala Phe Gly Tyr Leu Leu Pro Ile Val Ser Phe Val
145                 150                 155                 160
Leu Ala Trp Leu Glu Thr Trp Phe Leu Asp Phe Lys Val Leu Pro Gln
                165                 170                 175
Glu Ala Glu Glu Glu Arg Trp Tyr Leu Ala Ala Gln Val Ala Val Ala
            180                 185                 190
Arg Gly Pro Leu Leu Phe Ser Gly Ala Leu Ser Glu Gly Gln Phe Tyr
        195                 200                 205
Ser Pro Pro Glu Ser Phe Ala Gly Ser Asp Asn Glu Ser Asp Glu Glu
    210                 215                 220
Val Ala Gly Lys Lys Ser Phe Ser Ala Gln Glu Arg Glu Tyr Ile Arg
225                 230                 235                 240
Gln Gly Lys Glu Ala Thr Ala Val Val Asp Gln Ile Leu Ala Gln Glu
                245                 250                 255
Glu Asn Trp Lys Phe Glu Lys Asn Asn Glu Tyr Gly Asp Thr Val Tyr
            260                 265                 270
Thr Ile Glu Val Pro Phe His Gly Lys Thr Phe Ile Leu Lys Thr Phe
        275                 280                 285
Leu Pro Cys Pro Ala Glu Leu Val Tyr Gln Glu Val Ile Leu Gln Pro
    290                 295                 300
Glu Arg Met Val Leu Trp Asn Lys Thr Val Thr Ala Cys Gln Ile Leu
305                 310                 315                 320
Gln Arg Val Glu Asp Asn Thr Leu Ile Ser Tyr Asp Val Ser Ala Gly
                325                 330                 335
Ala Ala Gly Gly Val Val Ser Pro Arg Asp Phe Val Asn Val Arg Arg
            340                 345                 350
Ile Glu Arg Arg Arg Asp Arg Tyr Leu Ser Ser Gly Ile Ala Thr Ser
        355                 360                 365
His Ser Ala Lys Pro Pro Thr His Lys Tyr Val Arg Gly Glu Asn Gly
    370                 375                 380
Pro Gly Gly Phe Ile Val Leu Lys Ser Ala Ser Asn Pro Arg Val Cys
385                 390                 395                 400
Thr Phe Val Trp Ile Leu Asn Thr Asp Leu Lys Gly Arg Leu Pro Arg
                405                 410                 415
Tyr Leu Ile His Gln Ser Leu Ala Ala Thr Met Phe Glu Phe Ala Phe
            420                 425                 430
His Leu Arg Gln Arg Ile Ser Glu Leu Gly Ala Arg Ala
        435                 440                 445
```

<210> 34

<211> 167

<212> PRT

<213> Homo sapiens

<400> 34
Met Ala Thr Ser Glu Leu Ser Cys Glu Val Ser Glu Glu Asn Cys Glu
1 5 10 15
Arg Arg Glu Ala Phe Trp Ala Glu Trp Lys Asp Leu Thr Leu Ser Thr
20 25 30
Arg Pro Glu Glu Gly Cys Ser Leu His Glu Glu Asp Thr Gln Arg His
35 40 45
Glu Thr Tyr His Gln Gln Gly Gln Cys Gln Val Leu Val Gln Arg Ser
50 55 60
Pro Trp Leu Met Met Arg Met Gly Ile Leu Gly Arg Gly Leu Gln Glu
65 70 75 80
Tyr Gln Leu Pro Tyr Gln Arg Val Leu Pro Leu Pro Ile Phe Thr Pro
85 90 95
Ala Lys Met Gly Ala Thr Lys Glu Glu Arg Glu Asp Thr Pro Ile Gln
100 105 110
Leu Gln Glu Leu Leu Ala Leu Glu Thr Ala Leu Gly Gly Gln Cys Val
115 120 125
Asp Arg Gln Glu Val Ala Glu Ile Thr Lys Gln Leu Pro Pro Val Val
130 135 140
Pro Val Ser Lys Pro Gly Ala Leu Arg Arg Ser Leu Ser Arg Ser Met
145 150 155 160
Ser Gln Glu Ala Gln Arg Gly
165

<210> 35

<211> 282

<212> PRT

<213> Homo sapiens

<400> 35
Met Ser Gly Ala Asp Arg Ser Pro Asn Ala Gly Ala Ala Pro Asp Ser
1 5 10 15
Ala Pro Gly Gln Ala Ala Val Ala Ser Ala Tyr Gln Arg Phe Glu Pro
20 25 30
Arg Ala Tyr Leu Arg Asn Asn Tyr Ala Pro Pro Arg Gly Asp Leu Cys
35 40 45
Asn Pro Asn Gly Val Gly Pro Trp Lys Leu Arg Cys Leu Ala Gln Thr
50 55 60
Phe Ala Thr Gly Glu Val Ser Gly Arg Thr Leu Ile Asp Ile Gly Ser
65 70 75 80
Gly Pro Thr Val Tyr Gln Leu Leu Ser Ala Cys Ser His Phe Glu Asp
85 90 95
Ile Thr Met Thr Asp Phe Leu Glu Val Asn Arg Gln Glu Leu Gly Arg
100 105 110
Trp Leu Gln Glu Glu Pro Gly Ala Phe Asn Trp Ser Met Tyr Ser Gln
115 120 125
His Ala Cys Leu Ile Glu Gly Lys Gly Glu Cys Trp Gln Asp Lys Glu
130 135 140
Arg Gln Leu Arg Ala Arg Val Lys Arg Val Leu Pro Ile Asp Val His
145 150 155 160
Gln Pro Gln Pro Leu Gly Ala Gly Ser Pro Ala Pro Leu Pro Ala Asp
165 170 175
Ala Leu Val Ser Ala Phe Cys Leu Glu Ala Val Ser Pro Asp Leu Ala
180 185 190
Ser Phe Gln Arg Ala Leu Asp His Ile Thr Thr Leu Leu Arg Pro Gly
195 200 205
Gly His Leu Leu Leu Ile Gly Ala Leu Glu Glu Ser Trp Tyr Leu Ala
210 215 220
Gly Glu Ala Arg Leu Thr Val Val Pro Val Ser Glu Glu Glu Val Arg
225 230 235 240

Glu Ala Leu Val Arg Ser Gly Tyr Lys Val Arg Asp Leu Arg Thr Tyr
245 250 255
Ile Met Pro Ala His Leu Gln Thr Gly Val Asp Asp Val Lys Gly Val
260 265 270
Phe Phe Ala Trp Ala Gln Lys Val Gly Leu
275 280

<210> 36

<211> 1255

<212> PRT

<213> Homo sapiens

<400> 36
Met Glu Leu Ala Ala Leu Cys Arg Trp Gly Leu Leu Leu Ala Leu Leu
1 5 10 15
Pro Pro Gly Ala Ala Ser Thr Gln Val Cys Thr Gly Thr Asp Met Lys
20 25 30
Leu Arg Leu Pro Ala Ser Pro Glu Thr His Leu Asp Met Leu Arg His
35 40 45
Leu Tyr Gln Gly Cys Gln Val Val Gln Gly Asn Leu Glu Leu Thr Tyr
50 55 60
Leu Pro Thr Asn Ala Ser Leu Ser Phe Leu Gln Asp Ile Gln Glu Val
65 70 75 80
Gln Gly Tyr Val Leu Ile Ala His Asn Gln Val Arg Gln Val Pro Leu
85 90 95
Gln Arg Leu Arg Ile Val Arg Gly Thr Gln Leu Phe Glu Asp Asn Tyr
100 105 110
Ala Leu Ala Val Leu Asp Asn Gly Asp Pro Leu Asn Asn Thr Thr Pro
115 120 125
Val Thr Gly Ala Ser Pro Gly Gly Leu Arg Glu Leu Gln Leu Arg Ser
130 135 140
Leu Thr Glu Ile Leu Lys Gly Gly Val Leu Ile Gln Arg Asn Pro Gln
145 150 155 160
Leu Cys Tyr Gln Asp Thr Ile Leu Trp Lys Asp Ile Phe His Lys Asn
165 170 175
Asn Gln Leu Ala Leu Thr Leu Ile Asp Thr Asn Arg Ser Arg Ala Cys
180 185 190
His Pro Cys Ser Pro Met Cys Lys Gly Ser Arg Cys Trp Gly Glu Ser
195 200 205
Ser Glu Asp Cys Gln Ser Leu Thr Arg Thr Val Cys Ala Gly Gly Cys
210 215 220
Ala Arg Cys Lys Gly Pro Leu Pro Thr Asp Cys Cys His Glu Gln Cys
225 230 235 240
Ala Ala Gly Cys Thr Gly Pro Lys His Ser Asp Cys Leu Ala Cys Leu
245 250 255
His Phe Asn His Ser Gly Ile Cys Glu Leu His Cys Pro Ala Leu Val
260 265 270
Thr Tyr Asn Thr Asp Thr Phe Glu Ser Met Pro Asn Pro Glu Gly Arg
275 280 285
Tyr Thr Phe Gly Ala Ser Cys Val Thr Ala Cys Pro Tyr Asn Tyr Leu
290 295 300
Ser Thr Asp Val Gly Ser Cys Thr Leu Val Cys Pro Leu His Asn Gln
305 310 315 320
Glu Val Thr Ala Glu Asp Gly Thr Gln Arg Cys Glu Lys Cys Ser Lys
325 330 335
Pro Cys Ala Arg Val Cys Tyr Gly Leu Gly Met Glu His Leu Arg Glu
340 345 350
Val Arg Ala Val Thr Ser Ala Asn Ile Gln Glu Phe Ala Gly Cys Lys
355 360 365
Lys Ile Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser Phe Asp Gly Asp
370 375 380

```
Pro Ala Ser Asn Thr Ala Pro Leu Gln Pro Glu Gln Leu Gln Val Phe
385                 390                 395                 400
Glu Thr Leu Glu Glu Ile Thr Gly Tyr Leu Tyr Ile Ser Ala Trp Pro
                405                 410                 415
Asp Ser Leu Pro Asp Leu Ser Val Phe Gln Asn Leu Gln Val Ile Arg
            420                 425                 430
Gly Arg Ile Leu His Asn Gly Ala Tyr Ser Leu Thr Leu Gln Gly Leu
        435                 440                 445
Gly Ile Ser Trp Leu Gly Leu Arg Ser Leu Arg Glu Leu Gly Ser Gly
    450                 455                 460
Leu Ala Leu Ile His His Asn Thr His Leu Cys Phe Val His Thr Val
465                 470                 475                 480
Pro Trp Asp Gln Leu Phe Arg Asn Pro His Gln Ala Leu Leu His Thr
                485                 490                 495
Ala Asn Arg Pro Glu Asp Glu Cys Val Gly Glu Gly Leu Ala Cys His
            500                 505                 510
Gln Leu Cys Ala Arg Gly His Cys Trp Gly Pro Gly Pro Thr Gln Cys
        515                 520                 525
Val Asn Cys Ser Gln Phe Leu Arg Gly Gln Glu Cys Val Glu Glu Cys
    530                 535                 540
Arg Val Leu Gln Gly Leu Pro Arg Glu Tyr Val Asn Ala Arg His Cys
545                 550                 555                 560
Leu Pro Cys His Pro Glu Cys Gln Pro Gln Asn Gly Ser Val Thr Cys
                565                 570                 575
Phe Gly Pro Glu Ala Asp Gln Cys Val Ala Cys Ala His Tyr Lys Asp
            580                 585                 590
Pro Pro Phe Cys Val Ala Arg Cys Pro Ser Gly Val Lys Pro Asp Leu
        595                 600                 605
Ser Tyr Met Pro Ile Trp Lys Phe Pro Asp Glu Glu Gly Ala Cys Gln
    610                 615                 620
Pro Cys Pro Ile Asn Cys Thr His Ser Cys Val Asp Leu Asp Asp Lys
625                 630                 635                 640
Gly Cys Pro Ala Glu Gln Arg Ala Ser Pro Leu Thr Ser Ile Val Ser
                645                 650                 655
Ala Val Val Gly Ile Leu Leu Val Val Val Leu Gly Val Val Phe Gly
            660                 665                 670
Ile Leu Ile Lys Arg Arg Gln Gln Lys Ile Arg Lys Tyr Thr Met Arg
        675                 680                 685
Arg Leu Leu Gln Glu Thr Glu Leu Val Glu Pro Leu Thr Pro Ser Gly
    690                 695                 700
Ala Met Pro Asn Gln Ala Gln Met Arg Ile Leu Lys Glu Thr Glu Leu
705                 710                 715                 720
Arg Lys Val Lys Val Leu Gly Ser Gly Ala Phe Gly Thr Val Tyr Lys
                725                 730                 735
Gly Ile Trp Ile Pro Asp Gly Glu Asn Val Lys Ile Pro Val Ala Ile
            740                 745                 750
Lys Val Leu Arg Glu Asn Thr Ser Pro Lys Ala Asn Lys Glu Ile Leu
        755                 760                 765
Asp Glu Ala Tyr Val Met Ala Gly Val Gly Ser Pro Tyr Val Ser Arg
    770                 775                 780
Leu Leu Gly Ile Cys Leu Thr Ser Thr Val Gln Leu Val Thr Gln Leu
785                 790                 795                 800
Met Pro Tyr Gly Cys Leu Leu Asp His Val Arg Glu Asn Arg Gly Arg
                805                 810                 815
Leu Gly Ser Gln Asp Leu Leu Asn Trp Cys Met Gln Ile Ala Lys Gly
            820                 825                 830
Met Ser Tyr Leu Glu Asp Val Arg Leu Val His Arg Asp Leu Ala Ala
        835                 840                 845
Arg Asn Val Leu Val Lys Ser Pro Asn His Val Lys Ile Thr Asp Phe
    850                 855                 860
Gly Leu Ala Arg Leu Leu Asp Ile Asp Glu Thr Glu Tyr His Ala Asp
865                 870                 875                 880
Gly Gly Lys Val Pro Ile Lys Trp Met Ala Leu Glu Ser Ile Leu Arg
                885                 890                 895
Arg Arg Phe Thr His Gln Ser Asp Val Trp Ser Tyr Gly Val Thr Val
            900                 905                 910
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Trp Glu Leu Met Thr Phe Gly Ala Lys Pro Tyr Asp Gly Ile Pro Ala
        915                 920                 925
Arg Glu Ile Pro Asp Leu Leu Glu Lys Gly Glu Arg Leu Pro Gln Pro
    930                 935                 940
Pro Ile Cys Thr Ile Asp Val Tyr Met Ile Met Val Lys Cys Trp Met
945                 950                 955                 960
Ile Asp Ser Glu Cys Arg Pro Arg Phe Arg Glu Leu Val Ser Glu Phe
                965                 970                 975
Ser Arg Met Ala Arg Asp Pro Gln Arg Phe Val Val Ile Gln Asn Glu
            980                 985                 990
Asp Leu Gly Pro Ala Ser Pro Leu  Asp Ser Thr Phe Tyr  Arg Ser Leu
        995                 1000                1005
Leu Glu  Asp Asp Asp Met Gly  Asp Leu Val Asp Ala  Glu Glu Tyr
    1010                1015                1020
Leu Val  Pro Gln Gln Gly Phe  Phe Cys Pro Asp Pro  Ala Pro Gly
    1025                1030                1035
Ala Gly  Gly Met Val His His  Arg His Arg Ser Ser  Ser Thr Arg
    1040                1045                1050
Ser Gly  Gly Gly Asp Leu Thr  Leu Gly Leu Glu Pro  Ser Glu Glu
    1055                1060                1065
Glu Ala  Pro Arg Ser Pro Leu  Ala Pro Ser Glu Gly  Ala Gly Ser
    1070                1075                1080
Asp Val  Phe Asp Gly Asp Leu  Gly Met Gly Ala Ala  Lys Gly Leu
    1085                1090                1095
Gln Ser  Leu Pro Thr His Asp  Pro Ser Pro Leu Gln  Arg Tyr Ser
    1100                1105                1110
Glu Asp  Pro Thr Val Pro Leu  Pro Ser Glu Thr Asp  Gly Tyr Val
    1115                1120                1125
Ala Pro  Leu Thr Cys Ser Pro  Gln Pro Glu Tyr Val  Asn Gln Pro
    1130                1135                1140
Asp Val  Arg Pro Gln Pro Pro  Ser Pro Arg Glu Gly  Pro Leu Pro
    1145                1150                1155
Ala Ala  Arg Pro Ala Gly Ala  Thr Leu Glu Arg Ala  Lys Thr Leu
    1160                1165                1170
Ser Pro  Gly Lys Asn Gly Val  Val Lys Asp Val Phe  Ala Phe Gly
    1175                1180                1185
Gly Ala  Val Glu Asn Pro Glu  Tyr Leu Thr Pro Gln  Gly Gly Ala
    1190                1195                1200
Ala Pro  Gln Pro His Pro Pro  Pro Ala Phe Ser Pro  Ala Phe Asp
    1205                1210                1215
Asn Leu  Tyr Tyr Trp Asp Gln  Asp Pro Pro Glu Arg  Gly Ala Pro
    1220                1225                1230
Pro Ser  Thr Phe Lys Gly Thr  Pro Thr Ala Glu Asn  Pro Glu Tyr
    1235                1240                1245
Leu Gly  Leu Asp Val Pro Val
    1250                1255
<210>  37

<211>  532

<212>  PRT

<213>  Homo sapiens


<400>  37
Met Glu Leu Asp Leu Ser Pro Pro His Leu Ser Ser Ser Pro Glu Asp
1               5                   10                  15
Leu Trp Pro Ala Pro Gly Thr Pro Pro Gly Thr Pro Arg Pro Pro Asp
            20                  25                  30
Thr Pro Leu Pro Glu Glu Val Lys Arg Ser Gln Pro Leu Leu Ile Pro
        35                  40                  45
Thr Thr Gly Arg Lys Leu Arg Glu Glu Glu Arg Arg Ala Thr Ser Leu
    50                  55                  60
```

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Pro Ser Ile Pro Asn Pro Phe Pro Glu Leu Cys Ser Pro Pro Ser Gln
65                  70                  75                  80
Ser Pro Ile Leu Gly Gly Pro Ser Ser Ala Arg Gly Leu Leu Pro Arg
                85                  90                  95
Asp Ala Ser Arg Pro His Val Val Lys Val Tyr Ser Glu Asp Gly Ala
            100                 105                 110
Cys Arg Ser Val Glu Val Ala Ala Gly Ala Thr Ala Arg His Val Cys
        115                 120                 125
Glu Met Leu Val Gln Arg Ala His Ala Leu Ser Asp Glu Thr Trp Gly
    130                 135                 140
Leu Val Glu Cys His Pro His Leu Ala Leu Glu Arg Gly Leu Glu Asp
145                 150                 155                 160
His Glu Ser Val Val Glu Val Gln Ala Ala Trp Pro Val Gly Gly Asp
                165                 170                 175
Ser Arg Phe Val Phe Arg Lys Asn Phe Ala Lys Tyr Glu Leu Phe Lys
            180                 185                 190
Ser Ser Pro His Ser Leu Phe Pro Glu Lys Met Val Ser Ser Cys Leu
        195                 200                 205
Asp Ala His Thr Gly Ile Ser His Glu Asp Leu Ile Gln Asn Phe Leu
    210                 215                 220
Asn Ala Gly Ser Phe Pro Glu Ile Gln Gly Phe Leu Gln Leu Arg Gly
225                 230                 235                 240
Ser Gly Arg Lys Leu Trp Lys Arg Phe Phe Cys Phe Leu Arg Arg Ser
                245                 250                 255
Gly Leu Tyr Tyr Ser Thr Lys Gly Thr Ser Lys Asp Pro Arg His Leu
            260                 265                 270
Gln Tyr Val Ala Asp Val Asn Glu Ser Asn Val Tyr Val Val Thr Gln
        275                 280                 285
Gly Arg Lys Leu Tyr Gly Met Pro Thr Asp Phe Gly Phe Cys Val Lys
    290                 295                 300
Pro Asn Lys Leu Arg Asn Gly His Lys Gly Leu Arg Ile Phe Cys Ser
305                 310                 315                 320
Glu Asp Glu Gln Ser Arg Thr Cys Trp Leu Ala Ala Phe Arg Leu Phe
                325                 330                 335
Lys Tyr Gly Val Gln Leu Tyr Lys Asn Tyr Gln Gln Ala Gln Ser Arg
            340                 345                 350
His Leu His Pro Ser Cys Leu Gly Ser Pro Pro Leu Arg Ser Ala Ser
        355                 360                 365
Asp Asn Thr Leu Val Ala Met Asp Phe Ser Gly His Ala Gly Arg Val
    370                 375                 380
Ile Glu Asn Pro Arg Glu Ala Leu Ser Val Ala Leu Glu Glu Ala Gln
385                 390                 395                 400
Ala Trp Arg Lys Lys Thr Asn His Arg Leu Ser Leu Pro Met Pro Ala
                405                 410                 415
Ser Gly Thr Ser Leu Ser Ala Ala Ile His Arg Thr Gln Leu Trp Phe
            420                 425                 430
His Gly Arg Ile Ser Arg Glu Glu Ser Gln Arg Leu Ile Gly Gln Gln
        435                 440                 445
Gly Leu Val Asp Gly Leu Phe Leu Val Arg Glu Ser Gln Arg Asn Pro
    450                 455                 460
Gln Gly Phe Val Leu Ser Leu Cys His Leu Gln Lys Val Lys His Tyr
465                 470                 475                 480
Leu Ile Leu Pro Ser Glu Glu Glu Gly Arg Leu Tyr Phe Ser Met Asp
                485                 490                 495
Asp Gly Gln Thr Arg Phe Thr Asp Leu Leu Gln Leu Val Glu Phe His
            500                 505                 510
Gln Leu Asn Arg Gly Ile Leu Pro Cys Leu Leu Arg His Cys Cys Thr
        515                 520                 525
Arg Val Ala Leu
    530
<210>  38

<211>  534

<212>  PRT
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<213> Homo sapiens

<400> 38

```
Met Lys Gln Glu Gly Ser Ala Arg Arg Arg Gly Ala Asp Lys Ala Lys
1               5                  10                  15
Pro Pro Pro Gly Gly Gly Glu Gln Glu Pro Pro Pro Pro Pro Ala Pro
            20                  25                  30
Gln Asp Val Glu Met Lys Glu Glu Ala Ala Thr Gly Gly Gly Ser Thr
        35                  40                  45
Gly Glu Ala Asp Gly Lys Thr Ala Ala Ala Ala Val Glu His Ser Gln
    50                  55                  60
Arg Glu Leu Asp Thr Val Thr Leu Glu Asp Ile Lys Glu His Val Lys
65                  70                  75                  80
Gln Leu Glu Lys Ala Val Ser Gly Lys Glu Pro Arg Phe Val Leu Arg
                85                  90                  95
Ala Leu Arg Met Leu Pro Ser Thr Ser Arg Arg Leu Asn His Tyr Val
            100                 105                 110
Leu Tyr Lys Ala Val Gln Gly Phe Phe Thr Ser Asn Asn Ala Thr Arg
        115                 120                 125
Asp Phe Leu Leu Pro Phe Leu Glu Glu Pro Met Asp Thr Glu Ala Asp
    130                 135                 140
Leu Gln Phe Arg Pro Arg Thr Gly Lys Ala Ala Ser Thr Pro Leu Leu
145                 150                 155                 160
Pro Glu Val Glu Ala Tyr Leu Gln Leu Leu Val Val Ile Phe Met Met
                165                 170                 175
Asn Ser Lys Arg Tyr Lys Glu Ala Gln Lys Ile Ser Asp Asp Leu Met
            180                 185                 190
Gln Lys Ile Ser Thr Gln Asn Arg Arg Ala Leu Asp Leu Val Ala Ala
        195                 200                 205
Lys Cys Tyr Tyr Tyr His Ala Arg Val Tyr Glu Phe Leu Asp Lys Leu
    210                 215                 220
Asp Val Val Arg Ser Phe Leu His Ala Arg Leu Arg Thr Ala Thr Leu
225                 230                 235                 240
Arg His Asp Ala Asp Gly Gln Ala Thr Leu Leu Asn Leu Leu Leu Arg
                245                 250                 255
Asn Tyr Leu His Tyr Ser Leu Tyr Asp Gln Ala Glu Lys Leu Val Ser
            260                 265                 270
Lys Ser Val Phe Pro Glu Gln Ala Asn Asn Asn Glu Trp Ala Arg Tyr
        275                 280                 285
Leu Tyr Tyr Thr Gly Arg Ile Lys Ala Ile Gln Leu Glu Tyr Ser Glu
    290                 295                 300
Ala Arg Arg Thr Met Thr Asn Ala Leu Arg Lys Ala Pro Gln His Thr
305                 310                 315                 320
Ala Val Gly Phe Lys Gln Thr Val His Lys Leu Leu Ile Val Val Glu
                325                 330                 335
Leu Leu Leu Gly Glu Ile Pro Asp Arg Leu Gln Phe Arg Gln Pro Ser
            340                 345                 350
Leu Lys Arg Ser Leu Met Pro Tyr Phe Leu Leu Thr Gln Ala Val Arg
        355                 360                 365
Thr Gly Asn Leu Ala Lys Phe Asn Gln Val Leu Asp Gln Phe Gly Glu
    370                 375                 380
Lys Phe Gln Ala Asp Gly Thr Tyr Thr Leu Ile Ile Arg Leu Arg His
385                 390                 395                 400
Asn Val Ile Lys Thr Gly Val Arg Met Ile Ser Leu Ser Tyr Ser Arg
                405                 410                 415
Ile Ser Leu Ala Asp Ile Ala Gln Lys Leu Gln Leu Asp Ser Pro Glu
            420                 425                 430
Asp Ala Glu Phe Ile Val Ala Lys Ala Ile Arg Asp Gly Val Ile Glu
        435                 440                 445
Ala Ser Ile Asn His Glu Lys Gly Tyr Val Gln Ser Lys Glu Met Ile
    450                 455                 460
Asp Ile Tyr Ser Thr Arg Glu Pro Gln Leu Ala Phe His Gln Arg Ile
465                 470                 475                 480
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Ser Phe Cys Leu Asp Ile His Asn Met Ser Val Lys Ala Met Arg Phe
485 490 495
Pro Pro Lys Ser Tyr Asn Lys Asp Leu Glu Ser Ala Glu Glu Arg Arg
500 505 510
Glu Arg Glu Gln Gln Asp Leu Glu Phe Ala Lys Glu Met Ala Glu Asp
515 520 525
Asp Asp Asp Ser Phe Pro
530

<210> 39

<211> 207

<212> PRT

<213> Homo sapiens

<400> 39
Met Ala Gly Pro Ala Thr Gln Ser Pro Met Lys Leu Met Ala Leu Gln
1 5 10 15
Leu Leu Leu Trp His Ser Ala Leu Trp Thr Val Gln Glu Ala Thr Pro
20 25 30
Leu Gly Pro Ala Ser Ser Leu Pro Gln Ser Phe Leu Leu Lys Cys Leu
35 40 45
Glu Gln Val Arg Lys Ile Gln Gly Asp Gly Ala Ala Leu Gln Glu Lys
50 55 60
Leu Val Ser Glu Cys Ala Thr Tyr Lys Leu Cys His Pro Glu Glu Leu
65 70 75 80
Val Leu Leu Gly His Ser Leu Gly Ile Pro Trp Ala Pro Leu Ser Ser
85 90 95
Cys Pro Ser Gln Ala Leu Gln Leu Ala Gly Cys Leu Ser Gln Leu His
100 105 110
Ser Gly Leu Phe Leu Tyr Gln Gly Leu Leu Gln Ala Leu Glu Gly Ile
115 120 125
Ser Pro Glu Leu Gly Pro Thr Leu Asp Thr Leu Gln Leu Asp Val Ala
130 135 140
Asp Phe Ala Thr Thr Ile Trp Gln Gln Met Glu Glu Leu Gly Met Ala
145 150 155 160
Pro Ala Leu Gln Pro Thr Gln Gly Ala Met Pro Ala Phe Ala Ser Ala
165 170 175
Phe Gln Arg Arg Ala Gly Gly Val Leu Val Ala Ser His Leu Gln Ser
180 185 190
Phe Leu Glu Val Ser Tyr Arg Val Leu Arg His Leu Ala Gln Pro
195 200 205

<210> 40

<211> 989

<212> PRT

<213> Homo sapiens

<400> 40
Met Lys Val Val Asn Leu Lys Gln Ala Ile Leu Gln Ala Trp Lys Glu
1 5 10 15
Arg Trp Ser Tyr Tyr Gln Trp Ala Ile Asn Met Lys Lys Phe Phe Pro
20 25 30
Lys Gly Ala Thr Trp Asp Ile Leu Asn Leu Ala Asp Ala Leu Leu Glu
35 40 45
Gln Ala Met Ile Gly Pro Ser Pro Asn Pro Leu Ile Leu Ser Tyr Leu
50 55 60
Lys Tyr Ala Ile Ser Ser Gln Met Val Ser Tyr Ser Ser Val Leu Thr
65 70 75 80

```
Ala Ile Ser Lys Phe Asp Asp Phe Ser Arg Asp Leu Cys Val Gln Ala
                85                  90                  95
Leu Leu Asp Ile Met Asp Met Phe Cys Asp Arg Leu Ser Cys His Gly
            100                 105                 110
Lys Ala Glu Glu Cys Ile Gly Leu Cys Arg Ala Leu Leu Ser Ala Leu
        115                 120                 125
His Trp Leu Leu Arg Cys Thr Ala Ala Ser Ala Glu Arg Leu Arg Glu
    130                 135                 140
Gly Leu Glu Ala Gly Thr Pro Ala Ala Gly Glu Lys Gln Leu Ala Met
145                 150                 155                 160
Cys Leu Gln Arg Leu Glu Lys Thr Leu Ser Ser Thr Lys Asn Arg Ala
                165                 170                 175
Leu Leu His Ile Ala Lys Leu Glu Glu Ala Ser Ser Trp Thr Ala Ile
            180                 185                 190
Glu His Ser Leu Leu Lys Leu Gly Glu Ile Leu Thr Asn Leu Ser Asn
        195                 200                 205
Pro Gln Leu Arg Ser Gln Ala Glu Gln Cys Gly Thr Leu Ile Arg Ser
    210                 215                 220
Ile Pro Thr Met Leu Ser Val His Ala Glu Gln Met His Lys Thr Gly
225                 230                 235                 240
Phe Pro Thr Val His Ala Val Ile Leu Leu Glu Gly Thr Met Asn Leu
                245                 250                 255
Thr Gly Glu Thr Gln Ser Leu Val Glu Gln Leu Thr Met Val Lys Arg
            260                 265                 270
Met Gln His Ile Pro Thr Pro Leu Phe Val Leu Glu Ile Trp Lys Ala
        275                 280                 285
Cys Phe Val Gly Leu Ile Glu Ser Pro Glu Gly Thr Glu Glu Leu Lys
    290                 295                 300
Trp Thr Ala Phe Thr Phe Leu Lys Ile Pro Gln Val Leu Val Lys Leu
305                 310                 315                 320
Lys Lys Tyr Ser His Gly Asp Lys Asp Phe Thr Glu Asp Val Asn Cys
                325                 330                 335
Ala Phe Glu Phe Leu Leu Lys Leu Thr Pro Leu Leu Asp Lys Ala Asp
            340                 345                 350
Gln Arg Cys Asn Cys Asp Cys Thr Asn Phe Leu Leu Gln Glu Cys Gly
        355                 360                 365
Lys Gln Gly Leu Leu Ser Glu Ala Ser Val Asn Asn Leu Met Ala Lys
    370                 375                 380
Arg Lys Ala Asp Arg Glu His Ala Pro Gln Gln Lys Ser Gly Glu Asn
385                 390                 395                 400
Ala Asn Ile Gln Pro Asn Ile Gln Leu Ile Leu Arg Ala Glu Pro Thr
                405                 410                 415
Val Thr Asn Ile Leu Lys Thr Met Asp Ala Asp His Ser Lys Ser Pro
            420                 425                 430
Glu Gly Leu Leu Gly Val Leu Gly His Met Leu Ser Gly Lys Ser Leu
        435                 440                 445
Asp Leu Leu Leu Ala Ala Ala Ala Ala Thr Gly Lys Leu Lys Ser Phe
    450                 455                 460
Ala Arg Lys Phe Ile Asn Leu Asn Glu Phe Thr Thr Tyr Gly Ser Glu
465                 470                 475                 480
Glu Ser Thr Lys Pro Ala Ser Val Arg Ala Leu Leu Phe Asp Ile Ser
                485                 490                 495
Phe Leu Met Leu Cys His Val Ala Gln Thr Tyr Gly Ser Glu Val Ile
            500                 505                 510
Leu Ser Glu Ser Arg Thr Gly Ala Glu Val Pro Phe Phe Glu Thr Trp
        515                 520                 525
Met Gln Thr Cys Met Pro Glu Glu Gly Lys Ile Leu Asn Pro Asp His
    530                 535                 540
Pro Cys Phe Arg Pro Asp Ser Thr Lys Val Glu Ser Leu Val Ala Leu
545                 550                 555                 560
Leu Asn Asn Ser Ser Glu Met Lys Leu Val Gln Met Lys Trp His Glu
                565                 570                 575
Ala Cys Leu Ser Ile Ser Ala Ala Ile Leu Glu Ile Leu Asn Ala Trp
            580                 585                 590
Glu Asn Gly Val Leu Ala Phe Glu Ser Ile Gln Lys Ile Thr Asp Asn
        595                 600                 605
```

Ile Lys Gly Lys Val Cys Ser Leu Ala Val Cys Ala Val Ala Trp Leu
610 615 620
Val Ala His Val Arg Met Leu Gly Leu Asp Glu Arg Glu Lys Ser Leu
625 630 635 640
Gln Met Ile Arg Gln Leu Ala Gly Pro Leu Phe Ser Glu Asn Thr Leu
645 650 655
Gln Phe Tyr Asn Glu Arg Val Val Ile Met Asn Ser Ile Leu Glu Arg
660 665 670
Met Cys Ala Asp Val Leu Gln Gln Thr Ala Thr Gln Ile Lys Phe Pro
675 680 685
Ser Thr Gly Val Asp Thr Met Pro Tyr Trp Asn Leu Leu Pro Pro Lys
690 695 700
Arg Pro Ile Lys Glu Val Leu Thr Asp Ile Phe Ala Lys Val Leu Glu
705 710 715 720
Lys Gly Trp Val Asp Ser Arg Ser Ile His Ile Phe Asp Thr Leu Leu
725 730 735
His Met Gly Gly Val Tyr Trp Phe Cys Asn Asn Leu Ile Lys Glu Leu
740 745 750
Leu Lys Glu Thr Arg Lys Glu His Thr Leu Arg Ala Val Glu Leu Leu
755 760 765
Tyr Ser Ile Phe Cys Leu Asp Met Gln Gln Val Thr Leu Val Leu Leu
770 775 780
Gly His Ile Leu Pro Gly Leu Leu Thr Asp Ser Ser Lys Trp His Ser
785 790 795 800
Leu Met Asp Pro Pro Gly Thr Ala Leu Ala Lys Leu Ala Val Trp Cys
805 810 815
Ala Leu Ser Ser Tyr Ser Ser His Lys Gly Gln Ala Ser Thr Arg Gln
820 825 830
Lys Lys Arg His Arg Glu Asp Ile Glu Asp Tyr Ile Ser Leu Phe Pro
835 840 845
Leu Asp Asp Val Gln Pro Ser Lys Leu Met Arg Leu Leu Ser Ser Asn
850 855 860
Glu Asp Asp Ala Asn Ile Leu Ser Ser Pro Thr Asp Arg Ser Met Ser
865 870 875 880
Ser Ser Leu Ser Ala Ser Gln Leu His Thr Val Asn Met Arg Asp Pro
885 890 895
Leu Asn Arg Val Leu Ala Asn Leu Phe Leu Leu Ile Ser Ser Ile Leu
900 905 910
Gly Ser Arg Thr Ala Gly Pro His Thr Gln Phe Val Gln Trp Phe Met
915 920 925
Glu Glu Cys Val Asp Cys Leu Glu Gln Gly Gly Arg Gly Ser Val Leu
930 935 940
Gln Phe Met Pro Phe Thr Thr Val Ser Glu Leu Val Lys Val Ser Ala
945 950 955 960
Met Ser Ser Pro Lys Val Val Leu Ala Ile Thr Asp Leu Ser Leu Pro
965 970 975
Leu Gly Arg Gln Val Ala Ala Lys Ala Ile Ala Ala Leu
980 985

<210> 41

<211> 490

<212> PRT

<213> Homo sapiens

<400> 41
Met Glu Gln Lys Pro Ser Lys Val Glu Cys Gly Ser Asp Pro Glu Glu
1 5 10 15
Asn Ser Ala Arg Ser Pro Asp Gly Lys Arg Lys Arg Lys Asn Gly Gln
20 25 30
Cys Ser Leu Lys Thr Ser Met Ser Gly Tyr Ile Pro Ser Tyr Leu Asp
35 40 45

Lys Asp Glu Gln Cys Val Val Cys Gly Asp Lys Ala Thr Gly Tyr His
50 55 60
Tyr Arg Cys Ile Thr Cys Glu Gly Cys Lys Gly Phe Phe Arg Arg Thr
65 70 75 80
Ile Gln Lys Asn Leu His Pro Thr Tyr Ser Cys Lys Tyr Asp Ser Cys
85 90 95
Cys Val Ile Asp Lys Ile Thr Arg Asn Gln Cys Gln Leu Cys Arg Phe
100 105 110
Lys Lys Cys Ile Ala Val Gly Met Ala Met Asp Leu Val Leu Asp Asp
115 120 125
Ser Lys Arg Val Ala Lys Arg Lys Leu Ile Glu Gln Asn Arg Glu Arg
130 135 140
Arg Arg Lys Glu Glu Met Ile Arg Ser Leu Gln Gln Arg Pro Glu Pro
145 150 155 160
Thr Pro Glu Glu Trp Asp Leu Ile His Ile Ala Thr Glu Ala His Arg
165 170 175
Ser Thr Asn Ala Gln Gly Ser His Trp Lys Gln Arg Arg Lys Phe Leu
180 185 190
Pro Asp Asp Ile Gly Gln Ser Pro Ile Val Ser Met Pro Asp Gly Asp
195 200 205
Lys Val Asp Leu Glu Ala Phe Ser Glu Phe Thr Lys Ile Ile Thr Pro
210 215 220
Ala Ile Thr Arg Val Val Asp Phe Ala Lys Lys Leu Pro Met Phe Ser
225 230 235 240
Glu Leu Pro Cys Glu Asp Gln Ile Ile Leu Leu Lys Gly Cys Cys Met
245 250 255
Glu Ile Met Ser Leu Arg Ala Ala Val Arg Tyr Asp Pro Glu Ser Asp
260 265 270
Thr Leu Thr Leu Ser Gly Glu Met Ala Val Lys Arg Glu Gln Leu Lys
275 280 285
Asn Gly Gly Leu Gly Val Val Ser Asp Ala Ile Phe Glu Leu Gly Lys
290 295 300
Ser Leu Ser Ala Phe Asn Leu Asp Asp Thr Glu Val Ala Leu Leu Gln
305 310 315 320
Ala Val Leu Leu Met Ser Thr Asp Arg Ser Gly Leu Leu Cys Val Asp
325 330 335
Lys Ile Glu Lys Ser Gln Glu Ala Tyr Leu Leu Ala Phe Glu His Tyr
340 345 350
Val Asn His Arg Lys His Asn Ile Pro His Phe Trp Pro Lys Leu Leu
355 360 365
Met Lys Glu Arg Glu Val Gln Ser Ser Ile Leu Tyr Lys Gly Ala Ala
370 375 380
Ala Glu Gly Arg Pro Gly Gly Ser Leu Gly Val His Pro Glu Gly Gln
385 390 395 400
Gln Leu Leu Gly Met His Val Val Gln Gly Pro Gln Val Arg Gln Leu
405 410 415
Glu Gln Gln Leu Gly Glu Ala Gly Ser Leu Gln Gly Pro Val Leu Gln
420 425 430
His Gln Ser Pro Lys Ser Pro Gln Gln Arg Leu Leu Glu Leu Leu His
435 440 445
Arg Ser Gly Ile Leu His Ala Arg Ala Val Cys Gly Glu Asp Asp Ser
450 455 460
Ser Glu Ala Asp Ser Pro Ser Ser Ser Glu Glu Glu Pro Glu Val Cys
465 470 475 480
Glu Asp Leu Ala Gly Asn Ala Ala Ser Pro
485 490

<210> 42

<211> 614

<212> PRT

<213> Homo sapiens

<400> 42

```
Met Thr Thr Leu Asp Ser Asn Asn Asn Thr Gly Gly Val Ile Thr Tyr
1               5                  10                  15
Ile Gly Ser Ser Gly Ser Ser Pro Ser Arg Thr Ser Pro Glu Ser Leu
            20                  25                  30
Tyr Ser Asp Asn Ser Asn Gly Ser Phe Gln Ser Leu Thr Gln Gly Cys
        35                  40                  45
Pro Thr Tyr Phe Pro Pro Ser Pro Thr Gly Ser Leu Thr Gln Asp Pro
    50                  55                  60
Ala Arg Ser Phe Gly Ser Ile Pro Pro Ser Leu Ser Asp Asp Gly Ser
65                  70                  75                  80
Pro Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Phe Tyr Asn
                85                  90                  95
Gly Ser Pro Pro Gly Ser Leu Gln Val Ala Met Glu Asp Ser Ser Arg
            100                 105                 110
Val Ser Pro Ser Lys Ser Thr Ser Asn Ile Thr Lys Leu Asn Gly Met
        115                 120                 125
Val Leu Leu Cys Lys Val Cys Gly Asp Val Ala Ser Gly Phe His Tyr
    130                 135                 140
Gly Val Leu Ala Cys Glu Gly Cys Lys Gly Phe Phe Arg Arg Ser Ile
145                 150                 155                 160
Gln Gln Asn Ile Gln Tyr Lys Arg Cys Leu Lys Asn Glu Asn Cys Ser
                165                 170                 175
Ile Val Arg Ile Asn Arg Asn Arg Cys Gln Gln Cys Arg Phe Lys Lys
            180                 185                 190
Cys Leu Ser Val Gly Met Ser Arg Asp Ala Val Arg Phe Gly Arg Ile
        195                 200                 205
Pro Lys Arg Glu Lys Gln Arg Met Leu Ala Glu Met Gln Ser Ala Met
    210                 215                 220
Asn Leu Ala Asn Asn Gln Leu Ser Ser Gln Cys Pro Leu Glu Thr Ser
225                 230                 235                 240
Pro Thr Gln His Pro Thr Pro Gly Pro Met Gly Pro Ser Pro Pro Pro
                245                 250                 255
Ala Pro Val Pro Ser Pro Leu Val Gly Phe Ser Gln Phe Pro Gln Gln
            260                 265                 270
Leu Thr Pro Pro Arg Ser Pro Ser Pro Glu Pro Thr Val Glu Asp Val
        275                 280                 285
Ile Ser Gln Val Ala Arg Ala His Arg Glu Ile Phe Thr Tyr Ala His
    290                 295                 300
Asp Lys Leu Gly Ser Ser Pro Gly Asn Phe Asn Ala Asn His Ala Ser
305                 310                 315                 320
Gly Ser Pro Pro Ala Thr Thr Pro His Arg Trp Glu Asn Gln Gly Cys
                325                 330                 335
Pro Pro Ala Pro Asn Asp Asn Asn Thr Leu Ala Ala Gln Arg His Asn
            340                 345                 350
Glu Ala Leu Asn Gly Leu Arg Gln Ala Pro Ser Ser Tyr Pro Pro Thr
        355                 360                 365
Trp Pro Pro Gly Pro Ala His His Ser Cys His Gln Ser Asn Ser Asn
    370                 375                 380
Gly His Arg Leu Cys Pro Thr His Val Tyr Ala Ala Pro Glu Gly Lys
385                 390                 395                 400
Ala Pro Ala Asn Ser Pro Arg Gln Gly Asn Ser Lys Asn Val Leu Leu
                405                 410                 415
Ala Cys Pro Met Asn Met Tyr Pro His Gly Arg Ser Gly Arg Thr Val
            420                 425                 430
Gln Glu Ile Trp Glu Asp Phe Ser Met Ser Phe Thr Pro Ala Val Arg
        435                 440                 445
Glu Val Val Glu Phe Ala Lys His Ile Pro Gly Phe Arg Asp Leu Ser
    450                 455                 460
Gln His Asp Gln Val Thr Leu Leu Lys Ala Gly Thr Phe Glu Val Leu
465                 470                 475                 480
Met Val Arg Phe Ala Ser Leu Phe Asn Val Lys Asp Gln Thr Val Met
                485                 490                 495
Phe Leu Ser Arg Thr Thr Tyr Ser Leu Gln Glu Leu Gly Ala Met Gly
            500                 505                 510
```

Met Gly Asp Leu Leu Ser Ala Met Phe Asp Phe Ser Glu Lys Leu Asn
515 520 525
Ser Leu Ala Leu Thr Glu Glu Glu Leu Gly Leu Phe Thr Ala Val Val
530 535 540
Leu Val Ser Ala Asp Arg Ser Gly Met Glu Asn Ser Ala Ser Val Glu
545 550 555 560
Gln Leu Gln Glu Thr Leu Leu Arg Ala Leu Arg Ala Leu Val Leu Lys
565 570 575
Asn Arg Pro Leu Glu Thr Ser Arg Phe Thr Lys Leu Leu Leu Lys Leu
580 585 590
Pro Asp Leu Arg Thr Leu Asn Asn Met His Ser Glu Lys Leu Leu Ser
595 600 605
Phe Arg Val Asp Ala Gln
610

<210> 43

<211> 703

<212> PRT

<213> Homo sapiens

<400> 43
Met Ala Asp Arg Arg Arg Gln Arg Ala Ser Gln Asp Thr Glu Asp Glu
1 5 10 15
Glu Ser Gly Ala Ser Gly Ser Asp Ser Gly Gly Ser Pro Leu Arg Gly
20 25 30
Gly Gly Ser Cys Ser Gly Ser Ala Gly Gly Gly Gly Ser Gly Ser Leu
35 40 45
Pro Ser Gln Arg Gly Gly Arg Thr Gly Ala Leu His Leu Arg Arg Val
50 55 60
Glu Ser Gly Gly Ala Lys Ser Ala Glu Glu Ser Glu Cys Glu Ser Glu
65 70 75 80
Asp Gly Ile Glu Gly Asp Ala Val Leu Ser Asp Tyr Glu Ser Ala Glu
85 90 95
Asp Ser Glu Gly Glu Glu Gly Glu Tyr Ser Glu Glu Glu Asn Ser Lys
100 105 110
Val Glu Leu Lys Ser Glu Ala Asn Asp Ala Val Asn Ser Ser Thr Lys
115 120 125
Glu Glu Lys Gly Glu Glu Lys Pro Asp Thr Lys Ser Thr Val Thr Gly
130 135 140
Glu Arg Gln Ser Gly Asp Gly Gln Glu Ser Thr Glu Pro Val Glu Asn
145 150 155 160
Lys Val Gly Lys Lys Gly Pro Lys His Leu Asp Asp Asp Glu Asp Arg
165 170 175
Lys Asn Pro Ala Tyr Ile Pro Arg Lys Gly Leu Phe Phe Glu His Asp
180 185 190
Leu Arg Gly Gln Thr Gln Glu Glu Glu Val Arg Pro Lys Gly Arg Gln
195 200 205
Arg Lys Leu Trp Lys Asp Glu Gly Arg Trp Glu His Asp Lys Phe Arg
210 215 220
Glu Asp Glu Gln Ala Pro Lys Ser Arg Gln Glu Leu Ile Ala Leu Tyr
225 230 235 240
Gly Tyr Asp Ile Arg Ser Ala His Asn Pro Asp Asp Ile Lys Pro Arg
245 250 255
Arg Ile Arg Lys Pro Arg Tyr Gly Ser Pro Pro Gln Arg Asp Pro Asn
260 265 270
Trp Asn Gly Glu Arg Leu Asn Lys Ser His Arg His Gln Gly Leu Gly
275 280 285
Gly Thr Leu Pro Pro Arg Thr Phe Ile Asn Arg Asn Ala Ala Gly Thr
290 295 300
Gly Arg Met Ser Ala Pro Arg Asn Tyr Ser Arg Ser Gly Gly Phe Lys
305 310 315 320

Glu Gly Arg Ala Gly Phe Arg Pro Val Glu Ala Gly Gly Gln His Gly
325 330 335
Gly Arg Ser Gly Glu Thr Val Lys His Glu Ile Ser Tyr Arg Ser Arg
340 345 350
Arg Leu Glu Gln Thr Ser Val Arg Asp Pro Ser Pro Glu Ala Asp Ala
355 360 365
Pro Val Leu Gly Ser Pro Glu Lys Glu Glu Ala Ala Ser Glu Pro Pro
370 375 380
Ala Ala Ala Pro Asp Ala Ala Pro Pro Pro Pro Asp Arg Pro Ile Glu
385 390 395 400
Lys Lys Ser Tyr Ser Arg Ala Arg Arg Thr Arg Thr Lys Val Gly Asp
405 410 415
Ala Val Lys Leu Ala Glu Glu Val Pro Pro Pro Pro Glu Gly Leu Ile
420 425 430
Pro Ala Pro Pro Val Pro Glu Thr Thr Pro Thr Pro Pro Thr Lys Thr
435 440 445
Gly Thr Trp Glu Ala Pro Val Asp Ser Ser Thr Ser Gly Leu Glu Gln
450 455 460
Asp Val Ala Gln Leu Asn Ile Ala Glu Gln Asn Trp Ser Pro Gly Gln
465 470 475 480
Pro Ser Phe Leu Gln Pro Arg Glu Leu Arg Gly Met Pro Asn His Ile
485 490 495
His Met Gly Ala Gly Pro Pro Pro Gln Phe Asn Arg Met Glu Glu Met
500 505 510
Gly Val Gln Gly Gly Arg Ala Lys Arg Tyr Ser Ser Gln Arg Gln Arg
515 520 525
Pro Val Pro Glu Pro Pro Ala Pro Pro Val His Ile Ser Ile Met Glu
530 535 540
Gly His Tyr Tyr Asp Pro Leu Gln Phe Gln Gly Pro Ile Tyr Thr His
545 550 555 560
Gly Asp Ser Pro Ala Pro Leu Pro Pro Gln Gly Met Leu Val Gln Pro
565 570 575
Gly Met Asn Leu Pro His Pro Gly Leu His Pro His Gln Thr Pro Ala
580 585 590
Pro Leu Pro Asn Pro Gly Leu Tyr Pro Pro Pro Val Ser Met Ser Pro
595 600 605
Gly Gln Pro Pro Pro Gln Gln Leu Leu Ala Pro Thr Tyr Phe Ser Ala
610 615 620
Pro Gly Val Met Asn Phe Gly Asn Pro Ser Tyr Pro Tyr Ala Pro Gly
625 630 635 640
Ala Leu Pro Pro Pro Pro Pro Pro His Leu Tyr Pro Asn Thr Gln Ala
645 650 655
Pro Ser Gln Val Tyr Gly Gly Val Thr Tyr Tyr Asn Pro Ala Gln Gln
660 665 670
Gln Val Gln Pro Lys Pro Ser Pro Pro Arg Arg Thr Pro Gln Pro Val
675 680 685
Thr Ile Lys Pro Pro Pro Pro Glu Val Val Ser Arg Gly Ser Ser
690 695 700

<210> 44

<211> 560

<212> PRT

<213> Homo sapiens

<400> 44
Met Pro Gln Thr Arg Ser Gln Ala Gln Ala Thr Ile Ser Phe Pro Lys
1 5 10 15
Arg Lys Leu Ser Arg Ala Leu Asn Lys Ala Lys Asn Ser Ser Asp Ala
20 25 30
Lys Leu Glu Pro Thr Asn Val Gln Thr Val Thr Cys Ser Pro Arg Val
35 40 45

Lys Ala Leu Pro Leu Ser Pro Arg Lys Arg Leu Gly Asp Asp Asn Leu
50 55 60
Cys Asn Thr Pro His Leu Pro Pro Cys Ser Pro Pro Lys Gln Gly Lys
65 70 75 80
Lys Glu Asn Gly Pro Pro His Ser His Thr Leu Lys Gly Arg Arg Leu
85 90 95
Val Phe Asp Asn Gln Leu Thr Ile Lys Ser Pro Ser Lys Arg Glu Leu
100 105 110
Ala Lys Val His Gln Asn Lys Ile Leu Ser Ser Val Arg Lys Ser Gln
115 120 125
Glu Ile Thr Thr Asn Ser Glu Gln Arg Cys Pro Leu Lys Lys Glu Ser
130 135 140
Ala Cys Val Arg Leu Phe Lys Gln Glu Gly Thr Cys Tyr Gln Gln Ala
145 150 155 160
Lys Leu Val Leu Asn Thr Ala Val Pro Asp Arg Leu Pro Ala Arg Glu
165 170 175
Arg Glu Met Asp Val Ile Arg Asn Phe Leu Arg Glu His Ile Cys Gly
180 185 190
Lys Lys Ala Gly Ser Leu Tyr Leu Ser Gly Ala Pro Gly Thr Gly Lys
195 200 205
Thr Ala Cys Leu Ser Arg Ile Leu Gln Asp Leu Lys Lys Glu Leu Lys
210 215 220
Gly Phe Lys Thr Ile Met Leu Asn Cys Met Ser Leu Arg Thr Ala Gln
225 230 235 240
Ala Val Phe Pro Ala Ile Ala Gln Glu Ile Cys Gln Glu Glu Val Ser
245 250 255
Arg Pro Ala Gly Lys Asp Met Met Arg Lys Leu Glu Lys His Met Thr
260 265 270
Ala Glu Lys Gly Pro Met Ile Val Leu Val Leu Asp Glu Met Asp Gln
275 280 285
Leu Asp Ser Lys Gly Gln Asp Val Leu Tyr Thr Leu Phe Glu Trp Pro
290 295 300
Trp Leu Ser Asn Ser His Leu Val Leu Ile Gly Ile Ala Asn Thr Leu
305 310 315 320
Asp Leu Thr Asp Arg Ile Leu Pro Arg Leu Gln Ala Arg Glu Lys Cys
325 330 335
Lys Pro Gln Leu Leu Asn Phe Pro Pro Tyr Thr Arg Asn Gln Ile Val
340 345 350
Thr Ile Leu Gln Asp Arg Leu Asn Gln Val Ser Arg Asp Gln Val Leu
355 360 365
Asp Asn Ala Ala Val Gln Phe Cys Ala Arg Lys Val Ser Ala Val Ser
370 375 380
Gly Asp Val Arg Lys Ala Leu Asp Val Cys Arg Arg Ala Ile Glu Ile
385 390 395 400
Val Glu Ser Asp Val Lys Ser Gln Thr Ile Leu Lys Pro Leu Ser Glu
405 410 415
Cys Lys Ser Pro Ser Glu Pro Leu Ile Pro Lys Arg Val Gly Leu Ile
420 425 430
His Ile Ser Gln Val Ile Ser Glu Val Asp Gly Asn Arg Met Thr Leu
435 440 445
Ser Gln Glu Gly Ala Gln Asp Ser Phe Pro Leu Gln Gln Lys Ile Leu
450 455 460
Val Cys Ser Leu Met Leu Leu Ile Arg Gln Leu Lys Ile Lys Glu Val
465 470 475 480
Thr Leu Gly Lys Leu Tyr Glu Ala Tyr Ser Lys Val Cys Arg Lys Gln
485 490 495
Gln Val Ala Ala Val Asp Gln Ser Glu Cys Leu Ser Leu Ser Gly Leu
500 505 510
Leu Glu Ala Arg Gly Ile Leu Gly Leu Lys Arg Asn Lys Glu Thr Arg
515 520 525
Leu Thr Lys Val Phe Phe Lys Ile Glu Glu Lys Glu Ile Glu His Ala
530 535 540
Leu Lys Asp Lys Ala Leu Ile Gly Asn Ile Leu Ala Thr Gly Leu Pro
545 550 555 560
<210> 45

<211> 462

<212> PRT

<213> Homo sapiens

<400> 45

```
Met Ala Ser Asn Ser Ser Ser Cys Pro Thr Pro Gly Gly Gly His Leu
1               5                  10                  15
Asn Gly Tyr Pro Val Pro Pro Tyr Ala Phe Phe Phe Pro Pro Met Leu
            20                  25                  30
Gly Gly Leu Ser Pro Pro Gly Ala Leu Thr Thr Leu Gln His Gln Leu
        35                  40                  45
Pro Val Ser Gly Tyr Ser Thr Pro Ser Pro Ala Thr Ile Glu Thr Gln
    50                  55                  60
Ser Ser Ser Ser Glu Glu Ile Val Pro Ser Pro Pro Ser Pro Pro Pro
65                  70                  75                  80
Leu Pro Arg Ile Tyr Lys Pro Cys Phe Val Cys Gln Asp Lys Ser Ser
                85                  90                  95
Gly Tyr His Tyr Gly Val Ser Ala Cys Glu Gly Cys Lys Gly Phe Phe
            100                 105                 110
Arg Arg Ser Ile Gln Lys Asn Met Val Tyr Thr Cys His Arg Asp Lys
        115                 120                 125
Asn Cys Ile Ile Asn Lys Val Thr Arg Asn Arg Cys Gln Tyr Cys Arg
    130                 135                 140
Leu Gln Lys Cys Phe Glu Val Gly Met Ser Lys Glu Ser Val Arg Asn
145                 150                 155                 160
Asp Arg Asn Lys Lys Lys Lys Glu Val Pro Lys Pro Glu Cys Ser Glu
                165                 170                 175
Ser Tyr Thr Leu Thr Pro Glu Val Gly Glu Leu Ile Glu Lys Val Arg
            180                 185                 190
Lys Ala His Gln Glu Thr Phe Pro Ala Leu Cys Gln Leu Gly Lys Tyr
        195                 200                 205
Thr Thr Asn Asn Ser Ser Glu Gln Arg Val Ser Leu Asp Ile Asp Leu
    210                 215                 220
Trp Asp Lys Phe Ser Glu Leu Ser Thr Lys Cys Ile Ile Lys Thr Val
225                 230                 235                 240
Glu Phe Ala Lys Gln Leu Pro Gly Phe Thr Thr Leu Thr Ile Ala Asp
                245                 250                 255
Gln Ile Thr Leu Leu Lys Ala Ala Cys Leu Asp Ile Leu Ile Leu Arg
            260                 265                 270
Ile Cys Thr Arg Tyr Thr Pro Glu Gln Asp Thr Met Thr Phe Ser Asp
        275                 280                 285
Gly Leu Thr Leu Asn Arg Thr Gln Met His Asn Ala Gly Phe Gly Pro
    290                 295                 300
Leu Thr Asp Leu Val Phe Ala Phe Ala Asn Gln Leu Leu Pro Leu Glu
305                 310                 315                 320
Met Asp Asp Ala Glu Thr Gly Leu Leu Ser Ala Ile Cys Leu Ile Cys
                325                 330                 335
Gly Asp Arg Gln Asp Leu Glu Gln Pro Asp Arg Val Asp Met Leu Gln
            340                 345                 350
Glu Pro Leu Leu Glu Ala Leu Lys Val Tyr Val Arg Lys Arg Arg Pro
        355                 360                 365
Ser Arg Pro His Met Phe Pro Lys Met Leu Met Lys Ile Thr Asp Leu
    370                 375                 380
Arg Ser Ile Ser Ala Lys Gly Ala Glu Arg Val Ile Thr Leu Lys Met
385                 390                 395                 400
Glu Ile Pro Gly Ser Met Pro Pro Leu Ile Gln Glu Met Leu Glu Asn
                405                 410                 415
Ser Glu Gly Leu Asp Thr Leu Ser Gly Gln Pro Gly Gly Gly Gly Arg
            420                 425                 430
Asp Gly Gly Gly Leu Ala Pro Pro Pro Gly Ser Cys Ser Pro Ser Leu
        435                 440                 445
```

Ser Pro Ser Ser Asn Arg Ser Ser Pro Ala Thr His Ser Pro
450 455 460

<210> 46

<211> 1531

<212> PRT

<213> Homo sapiens

<400> 46

Met Glu Val Ser Pro Leu Gln Pro Val Asn Glu Asn Met Gln Val Asn
1 5 10 15
Lys Ile Lys Lys Asn Glu Asp Ala Lys Lys Arg Leu Ser Val Glu Arg
20 25 30
Ile Tyr Gln Lys Lys Thr Gln Leu Glu His Ile Leu Leu Arg Pro Asp
35 40 45
Thr Tyr Ile Gly Ser Val Glu Leu Val Thr Gln Gln Met Trp Val Tyr
50 55 60
Asp Glu Asp Val Gly Ile Asn Tyr Arg Glu Val Thr Phe Val Pro Gly
65 70 75 80
Leu Tyr Lys Ile Phe Asp Glu Ile Leu Val Asn Ala Ala Asp Asn Lys
85 90 95
Gln Arg Asp Pro Lys Met Ser Cys Ile Arg Val Thr Ile Asp Pro Glu
100 105 110
Asn Asn Leu Ile Ser Ile Trp Asn Asn Gly Lys Gly Ile Pro Val Val
115 120 125
Glu His Lys Val Glu Lys Met Tyr Val Pro Ala Leu Ile Phe Gly Gln
130 135 140
Leu Leu Thr Ser Ser Asn Tyr Asp Asp Asp Glu Lys Lys Val Thr Gly
145 150 155 160
Gly Arg Asn Gly Tyr Gly Ala Lys Leu Cys Asn Ile Phe Ser Thr Lys
165 170 175
Phe Thr Val Glu Thr Ala Ser Arg Glu Tyr Lys Lys Met Phe Lys Gln
180 185 190
Thr Trp Met Asp Asn Met Gly Arg Ala Gly Glu Met Glu Leu Lys Pro
195 200 205
Phe Asn Gly Glu Asp Tyr Thr Cys Ile Thr Phe Gln Pro Asp Leu Ser
210 215 220
Lys Phe Lys Met Gln Ser Leu Asp Lys Asp Ile Val Ala Leu Met Val
225 230 235 240
Arg Arg Ala Tyr Asp Ile Ala Gly Ser Thr Lys Asp Val Lys Val Phe
245 250 255
Leu Asn Gly Asn Lys Leu Pro Val Lys Gly Phe Arg Ser Tyr Val Asp
260 265 270
Met Tyr Leu Lys Asp Lys Leu Asp Glu Thr Gly Asn Ser Leu Lys Val
275 280 285
Ile His Glu Gln Val Asn His Arg Trp Glu Val Cys Leu Thr Met Ser
290 295 300
Glu Lys Gly Phe Gln Gln Ile Ser Phe Val Asn Ser Ile Ala Thr Ser
305 310 315 320
Lys Gly Gly Arg His Val Asp Tyr Val Ala Asp Gln Ile Val Thr Lys
325 330 335
Leu Val Asp Val Val Lys Lys Lys Asn Lys Gly Gly Val Ala Val Lys
340 345 350
Ala His Gln Val Lys Asn His Met Trp Ile Phe Val Asn Ala Leu Ile
355 360 365
Glu Asn Pro Thr Phe Asp Ser Gln Thr Lys Glu Asn Met Thr Leu Gln
370 375 380
Pro Lys Ser Phe Gly Ser Thr Cys Gln Leu Ser Glu Lys Phe Ile Lys
385 390 395 400
Ala Ala Ile Gly Cys Gly Ile Val Glu Ser Ile Leu Asn Trp Val Lys
405 410 415

```
Phe Lys Ala Gln Val Gln Leu Asn Lys Lys Cys Ser Ala Val Lys His
                420                 425                 430
Asn Arg Ile Lys Gly Ile Pro Lys Leu Asp Asp Ala Asn Asp Ala Gly
        435                 440                 445
Gly Arg Asn Ser Thr Glu Cys Thr Leu Ile Leu Thr Glu Gly Asp Ser
    450                 455                 460
Ala Lys Thr Leu Ala Val Ser Gly Leu Gly Val Val Gly Arg Asp Lys
465                 470                 475                 480
Tyr Gly Val Phe Pro Leu Arg Gly Lys Ile Leu Asn Val Arg Glu Ala
                485                 490                 495
Ser His Lys Gln Ile Met Glu Asn Ala Glu Ile Asn Asn Ile Ile Lys
            500                 505                 510
Ile Val Gly Leu Gln Tyr Lys Lys Asn Tyr Glu Asp Glu Asp Ser Leu
        515                 520                 525
Lys Thr Leu Arg Tyr Gly Lys Ile Met Ile Met Thr Asp Gln Asp Gln
    530                 535                 540
Asp Gly Ser His Ile Lys Gly Leu Leu Ile Asn Phe Ile His His Asn
545                 550                 555                 560
Trp Pro Ser Leu Leu Arg His Arg Phe Leu Glu Glu Phe Ile Thr Pro
                565                 570                 575
Ile Val Lys Val Ser Lys Asn Lys Gln Glu Met Ala Phe Tyr Ser Leu
            580                 585                 590
Pro Glu Phe Glu Glu Trp Lys Ser Ser Thr Pro Asn His Lys Lys Trp
        595                 600                 605
Lys Val Lys Tyr Tyr Lys Gly Leu Gly Thr Ser Thr Ser Lys Glu Ala
    610                 615                 620
Lys Glu Tyr Phe Ala Asp Met Lys Arg His Arg Ile Gln Phe Lys Tyr
625                 630                 635                 640
Ser Gly Pro Glu Asp Asp Ala Ala Ile Ser Leu Ala Phe Ser Lys Lys
                645                 650                 655
Gln Ile Asp Asp Arg Lys Glu Trp Leu Thr Asn Phe Met Glu Asp Arg
            660                 665                 670
Arg Gln Arg Lys Leu Leu Gly Leu Pro Glu Asp Tyr Leu Tyr Gly Gln
        675                 680                 685
Thr Thr Thr Tyr Leu Thr Tyr Asn Asp Phe Ile Asn Lys Glu Leu Ile
    690                 695                 700
Leu Phe Ser Asn Ser Asp Asn Glu Arg Ser Ile Pro Ser Met Val Asp
705                 710                 715                 720
Gly Leu Lys Pro Gly Gln Arg Lys Val Leu Phe Thr Cys Phe Lys Arg
                725                 730                 735
Asn Asp Lys Arg Glu Val Lys Val Ala Gln Leu Ala Gly Ser Val Ala
            740                 745                 750
Glu Met Ser Ser Tyr His His Gly Glu Met Ser Leu Met Met Thr Ile
        755                 760                 765
Ile Asn Leu Ala Gln Asn Phe Val Gly Ser Asn Asn Leu Asn Leu Leu
    770                 775                 780
Gln Pro Ile Gly Gln Phe Gly Thr Arg Leu His Gly Gly Lys Asp Ser
785                 790                 795                 800
Ala Ser Pro Arg Tyr Ile Phe Thr Met Leu Ser Ser Leu Ala Arg Leu
                805                 810                 815
Leu Phe Pro Pro Lys Asp Asp His Thr Leu Lys Phe Leu Tyr Asp Asp
            820                 825                 830
Asn Gln Arg Val Glu Pro Glu Trp Tyr Ile Pro Ile Ile Pro Met Val
        835                 840                 845
Leu Ile Asn Gly Ala Glu Gly Ile Gly Thr Gly Trp Ser Cys Lys Ile
    850                 855                 860
Pro Asn Phe Asp Val Arg Glu Ile Val Asn Asn Ile Arg Arg Leu Met
865                 870                 875                 880
Asp Gly Glu Glu Pro Leu Pro Met Leu Pro Ser Tyr Lys Asn Phe Lys
                885                 890                 895
Gly Thr Ile Glu Glu Leu Ala Pro Asn Gln Tyr Val Ile Ser Gly Glu
            900                 905                 910
Val Ala Ile Leu Asn Ser Thr Thr Ile Glu Ile Ser Glu Leu Pro Val
        915                 920                 925
Arg Thr Trp Thr Gln Thr Tyr Lys Glu Gln Val Leu Glu Pro Met Leu
    930                 935                 940
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```
Asn Gly Thr Glu Lys Thr Pro Pro Leu Ile Thr Asp Tyr Arg Glu Tyr
945                 950                 955                 960
His Thr Asp Thr Thr Val Lys Phe Val Val Lys Met Thr Glu Glu Lys
                965                 970                 975
Leu Ala Glu Ala Glu Arg Val Gly Leu His Lys Val Phe Lys Leu Gln
            980                 985                 990
Thr Ser Leu Thr Cys Asn Ser Met  Val Leu Phe Asp His  Val Gly Cys
        995                 1000                1005
Leu Lys  Lys Tyr Asp Thr Val  Leu Asp Ile Leu Arg  Asp Phe Phe
    1010                1015                1020
Glu Leu  Arg Leu Lys Tyr Tyr  Gly Leu Arg Lys Glu  Trp Leu Leu
    1025                1030                1035
Gly Met  Leu Gly Ala Glu Ser  Ala Lys Leu Asn Asn  Gln Ala Arg
    1040                1045                1050
Phe Ile  Leu Glu Lys Ile Asp  Gly Lys Ile Ile Ile  Glu Asn Lys
    1055                1060                1065
Pro Lys  Lys Glu Leu Ile Lys  Val Leu Ile Gln Arg  Gly Tyr Asp
    1070                1075                1080
Ser Asp  Pro Val Lys Ala Trp  Lys Glu Ala Gln Gln  Lys Val Pro
    1085                1090                1095
Asp Glu  Glu Glu Asn Glu Glu  Ser Asp Asn Glu Lys  Glu Thr Glu
    1100                1105                1110
Lys Ser  Asp Ser Val Thr Asp  Ser Gly Pro Thr Phe  Asn Tyr Leu
    1115                1120                1125
Leu Asp  Met Pro Leu Trp Tyr  Leu Thr Lys Glu Lys  Lys Asp Glu
    1130                1135                1140
Leu Cys  Arg Leu Arg Asn Glu  Lys Glu Gln Glu Leu  Asp Thr Leu
    1145                1150                1155
Lys Arg  Lys Ser Pro Ser Asp  Leu Trp Lys Glu Asp  Leu Ala Thr
    1160                1165                1170
Phe Ile  Glu Glu Leu Glu Ala  Val Glu Ala Lys Glu  Lys Gln Asp
    1175                1180                1185
Glu Gln  Val Gly Leu Pro Gly  Lys Gly Gly Lys Ala  Lys Gly Lys
    1190                1195                1200
Lys Thr  Gln Met Ala Glu Val  Leu Pro Ser Pro Arg  Gly Gln Arg
    1205                1210                1215
Val Ile  Pro Arg Ile Thr Ile  Glu Met Lys Ala Glu  Ala Glu Lys
    1220                1225                1230
Lys Asn  Lys Lys Lys Ile Lys  Asn Glu Asn Thr Glu  Gly Ser Pro
    1235                1240                1245
Gln Glu  Asp Gly Val Glu Leu  Glu Gly Leu Lys Gln  Arg Leu Glu
    1250                1255                1260
Lys Lys  Gln Lys Arg Glu Pro  Gly Thr Lys Thr Lys  Lys Gln Thr
    1265                1270                1275
Thr Leu  Ala Phe Lys Pro Ile  Lys Lys Gly Lys Lys  Arg Asn Pro
    1280                1285                1290
Trp Ser  Asp Ser Glu Ser Asp  Arg Ser Ser Asp Glu  Ser Asn Phe
    1295                1300                1305
Asp Val  Pro Pro Arg Glu Thr  Glu Pro Arg Arg Ala  Ala Thr Lys
    1310                1315                1320
Thr Lys  Phe Thr Met Asp Leu  Asp Ser Asp Glu Asp  Phe Ser Asp
    1325                1330                1335
Phe Asp  Glu Lys Thr Asp Asp  Glu Asp Phe Val Pro  Ser Asp Ala
    1340                1345                1350
Ser Pro  Pro Lys Thr Lys Thr  Ser Pro Lys Leu Ser  Asn Lys Glu
    1355                1360                1365
Leu Lys  Pro Gln Lys Ser Val  Val Ser Asp Leu Glu  Ala Asp Asp
    1370                1375                1380
Val Lys  Gly Ser Val Pro Leu  Ser Ser Ser Pro Pro  Ala Thr His
    1385                1390                1395
Phe Pro  Asp Glu Thr Glu Ile  Thr Asn Pro Val Pro  Lys Lys Asn
    1400                1405                1410
Val Thr  Val Lys Lys Thr Ala  Ala Lys Ser Gln Ser  Ser Thr Ser
    1415                1420                1425
Thr Thr  Gly Ala Lys Lys Arg  Ala Ala Pro Lys Gly  Thr Lys Arg
    1430                1435                1440
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Asp Pro  Ala Leu Asn Ser Gly  Val Ser Gln Lys Pro  Asp Pro Ala
    1445                 1450                 1455
Lys Thr  Lys Asn Arg Arg Lys  Arg Lys Pro Ser Thr  Ser Asp Asp
    1460                 1465                 1470
Ser Asp  Ser Asn Phe Glu Lys  Ile Val Ser Lys Ala  Val Thr Ser
    1475                 1480                 1485
Lys Lys  Ser Lys Gly Glu Ser  Asp Asp Phe His Met  Asp Phe Asp
    1490                 1495                 1500
Ser Ala  Val Ala Pro Arg Ala  Lys Ser Val Arg Ala  Lys Lys Pro
    1505                 1510                 1515
Ile Lys  Tyr Leu Glu Glu Ser  Asp Glu Asp Asp Leu  Phe
    1520                 1525                 1530
```

<210> 47

<211> 258

<212> PRT

<213> Homo sapiens

<400> 47

```
Met Leu Pro Leu Cys Leu Val Ala Ala Leu Leu Leu Ala Ala Gly Pro
1               5                  10                  15
Gly Pro Ser Leu Gly Asp Glu Ala Ile His Cys Pro Pro Cys Ser Glu
            20                  25                  30
Glu Lys Leu Ala Arg Cys Arg Pro Pro Val Gly Cys Glu Glu Leu Val
        35                  40                  45
Arg Glu Pro Gly Cys Gly Cys Cys Ala Thr Cys Ala Leu Gly Leu Gly
    50                  55                  60
Met Pro Cys Gly Val Tyr Thr Pro Arg Cys Gly Ser Gly Leu Arg Cys
65                  70                  75                  80
Tyr Pro Pro Arg Gly Val Glu Lys Pro Leu His Thr Leu Met His Gly
                85                  90                  95
Gln Gly Val Cys Met Glu Leu Ala Glu Ile Glu Ala Ile Gln Glu Ser
            100                 105                 110
Leu Gln Pro Ser Asp Lys Asp Glu Gly Asp His Pro Asn Asn Ser Phe
        115                 120                 125
Ser Pro Cys Ser Ala His Asp Arg Arg Cys Leu Gln Lys His Phe Ala
    130                 135                 140
Lys Ile Arg Asp Arg Ser Thr Ser Gly Gly Lys Met Lys Val Asn Gly
145                 150                 155                 160
Ala Pro Arg Glu Asp Ala Arg Pro Val Pro Gln Gly Ser Cys Gln Ser
                165                 170                 175
Glu Leu His Arg Ala Leu Glu Arg Leu Ala Ala Ser Gln Ser Arg Thr
            180                 185                 190
His Glu Asp Leu Tyr Ile Ile Pro Ile Pro Asn Cys Asp Arg Asn Gly
        195                 200                 205
Asn Phe His Pro Lys Gln Cys His Pro Ala Leu Asp Gly Gln Arg Gly
    210                 215                 220
Lys Cys Trp Cys Val Asp Arg Lys Thr Gly Val Lys Leu Pro Gly Gly
225                 230                 235                 240
Leu Glu Pro Lys Gly Glu Leu Asp Cys His Gln Leu Ala Asp Ser Phe
                245                 250                 255
Arg Glu
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<210> 48

<211> 378

<212> PRT

<213> Homo sapiens

<400> 48
Met Asp Leu Gly Lys Pro Met Lys Ser Val Leu Val Val Ala Leu Leu
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20 25 30
Ile Gly Asp Asn Thr Thr Val Asp Tyr Thr Leu Phe Glu Ser Leu Cys
35 40 45
Ser Lys Lys Asp Val Arg Asn Phe Lys Ala Trp Phe Leu Pro Ile Met
50 55 60
Tyr Ser Ile Ile Cys Phe Val Gly Leu Leu Gly Asn Gly Leu Val Val
65 70 75 80
Leu Thr Tyr Ile Tyr Phe Lys Arg Leu Lys Thr Met Thr Asp Thr Tyr
85 90 95
Leu Leu Asn Leu Ala Val Ala Asp Ile Leu Phe Leu Leu Thr Leu Pro
100 105 110
Phe Trp Ala Tyr Ser Ala Ala Lys Ser Trp Val Phe Gly Val His Phe
115 120 125
Cys Lys Leu Ile Phe Ala Ile Tyr Lys Met Ser Phe Phe Ser Gly Met
130 135 140
Leu Leu Leu Leu Cys Ile Ser Ile Asp Arg Tyr Val Ala Ile Val Gln
145 150 155 160
Ala Val Ser Ala His Arg His Arg Ala Arg Val Leu Leu Ile Ser Lys
165 170 175
Leu Ser Cys Val Gly Ile Trp Ile Leu Ala Thr Val Leu Ser Ile Pro
180 185 190
Glu Leu Leu Tyr Ser Asp Leu Gln Arg Ser Ser Ser Glu Gln Ala Met
195 200 205
Arg Cys Ser Leu Ile Thr Glu His Val Glu Ala Phe Ile Thr Ile Gln
210 215 220
Val Ala Gln Met Val Ile Gly Phe Leu Val Pro Leu Leu Ala Met Ser
225 230 235 240
Phe Cys Tyr Leu Val Ile Ile Arg Thr Leu Leu Gln Ala Arg Asn Phe
245 250 255
Glu Arg Asn Lys Ala Ile Lys Val Ile Ile Ala Val Val Val Val Phe
260 265 270
Ile Val Phe Gln Leu Pro Tyr Asn Gly Val Val Leu Ala Gln Thr Val
275 280 285
Ala Asn Phe Asn Ile Thr Ser Ser Thr Cys Glu Leu Ser Lys Gln Leu
290 295 300
Asn Ile Ala Tyr Asp Val Thr Tyr Ser Leu Ala Cys Val Arg Cys Cys
305 310 315 320
Val Asn Pro Phe Leu Tyr Ala Phe Ile Gly Val Lys Phe Arg Asn Asp
325 330 335
Leu Phe Lys Leu Phe Lys Asp Leu Gly Cys Leu Ser Gln Glu Gln Leu
340 345 350
Arg Gln Trp Ser Ser Cys Arg His Ile Arg Arg Ser Ser Met Ser Val
355 360 365
Glu Ala Glu Thr Thr Thr Thr Phe Ser Pro
370 375
<210> 49

<211> 411

<212> PRT

<213> Homo sapiens

<400> 49
Met Ser Lys Arg Pro Ser Tyr Ala Pro Pro Pro Thr Pro Ala Pro Ala
1 5 10 15
Thr Gln Met Pro Ser Thr Pro Gly Phe Val Gly Tyr Asn Pro Tyr Ser
20 25 30

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His Leu Ala Tyr Asn Asn Tyr Arg Leu Gly Gly Asn Pro Ser Thr Asn
        35                  40                  45
Ser Arg Val Thr Ala Ser Ser Gly Ile Thr Ile Pro Lys Pro Pro Lys
    50                  55                  60
Pro Pro Asp Lys Pro Leu Met Pro Tyr Met Arg Tyr Ser Arg Lys Val
65                  70                  75                  80
Trp Asp Gln Val Lys Ala Ser Asn Pro Asp Leu Lys Leu Trp Glu Ile
                85                  90                  95
Gly Lys Ile Ile Gly Gly Met Trp Arg Asp Leu Thr Asp Glu Glu Lys
            100                 105                 110
Gln Glu Tyr Leu Asn Glu Tyr Glu Ala Glu Lys Ile Glu Tyr Asn Glu
        115                 120                 125
Ser Met Lys Ala Tyr His Asn Ser Pro Ala Tyr Leu Ala Tyr Ile Asn
    130                 135                 140
Ala Lys Ser Arg Ala Glu Ala Ala Leu Glu Glu Glu Ser Arg Gln Arg
145                 150                 155                 160
Gln Ser Arg Met Glu Lys Gly Glu Pro Tyr Met Ser Ile Gln Pro Ala
                165                 170                 175
Glu Asp Pro Asp Asp Tyr Asp Asp Gly Phe Ser Met Lys His Thr Ala
            180                 185                 190
Thr Ala Arg Phe Gln Arg Asn His Arg Leu Ile Ser Glu Ile Leu Ser
        195                 200                 205
Glu Ser Val Val Pro Asp Val Arg Ser Val Val Thr Thr Ala Arg Met
    210                 215                 220
Gln Val Leu Lys Arg Gln Val Gln Ser Leu Met Val His Gln Arg Lys
225                 230                 235                 240
Leu Glu Ala Glu Leu Leu Gln Ile Glu Glu Arg His Gln Glu Lys Lys
                245                 250                 255
Arg Lys Phe Leu Glu Ser Thr Asp Ser Phe Asn Asn Glu Leu Lys Arg
            260                 265                 270
Leu Cys Gly Leu Lys Val Glu Val Asp Met Glu Lys Ile Ala Ala Glu
        275                 280                 285
Ile Ala Gln Ala Glu Glu Gln Ala Arg Lys Arg Gln Glu Glu Arg Glu
    290                 295                 300
Lys Glu Ala Ala Glu Gln Ala Glu Arg Ser Gln Ser Ser Ile Val Pro
305                 310                 315                 320
Glu Glu Glu Gln Ala Ala Asn Lys Gly Glu Glu Lys Lys Asp Asp Glu
                325                 330                 335
Asn Ile Pro Met Glu Thr Glu Glu Thr His Leu Glu Glu Thr Thr Glu
            340                 345                 350
Ser Gln Gln Asn Gly Glu Glu Gly Thr Ser Thr Pro Glu Asp Lys Glu
        355                 360                 365
Ser Gly Gln Glu Gly Val Asp Ser Met Ala Glu Glu Gly Thr Ser Asp
    370                 375                 380
Ser Asn Thr Gly Ser Glu Ser Asn Ser Ala Thr Val Glu Glu Pro Pro
385                 390                 395                 400
Thr Asp Pro Ile Pro Glu Asp Glu Lys Lys Glu
                405                 410
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<210> 50

<211> 593

<212> PRT

<213> Homo sapiens

<400> 50

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Met Ser Val Arg Tyr Ser Ser Ser Lys His Tyr Ser Ser Ser Arg Ser
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Gly Gly Gly Gly Gly Gly Gly Gly Cys Gly Gly Gly Gly Gly Val Ser
            20                  25                  30
Ser Leu Arg Ile Ser Ser Ser Lys Gly Ser Leu Gly Gly Gly Phe Ser
        35                  40                  45
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Ser Gly Gly Phe Ser Gly Gly Ser Phe Ser Arg Gly Ser Ser Gly Gly
50 55 60
Gly Cys Phe Gly Gly Ser Ser Gly Gly Tyr Gly Gly Leu Gly Gly Phe
65 70 75 80
Gly Gly Gly Ser Phe His Gly Ser Tyr Gly Ser Ser Ser Phe Gly Gly
85 90 95
Ser Tyr Gly Gly Ser Phe Gly Gly Gly Asn Phe Gly Gly Gly Ser Phe
100 105 110
Gly Gly Gly Ser Phe Gly Gly Gly Gly Phe Gly Gly Gly Gly Phe Gly
115 120 125
Gly Gly Phe Gly Gly Gly Phe Gly Gly Asp Gly Gly Leu Leu Ser Gly
130 135 140
Asn Glu Lys Val Thr Met Gln Asn Leu Asn Asp Arg Leu Ala Ser Tyr
145 150 155 160
Leu Asp Lys Val Arg Ala Leu Glu Glu Ser Asn Tyr Glu Leu Glu Gly
165 170 175
Lys Ile Lys Glu Trp Tyr Glu Lys His Gly Asn Ser His Gln Gly Glu
180 185 190
Pro Arg Asp Tyr Ser Lys Tyr Tyr Lys Thr Ile Asp Asp Leu Lys Asn
195 200 205
Gln Ile Leu Asn Leu Thr Thr Asp Asn Ala Asn Ile Leu Leu Gln Ile
210 215 220
Asp Asn Ala Arg Leu Ala Ala Asp Asp Phe Arg Leu Lys Tyr Glu Asn
225 230 235 240
Glu Val Ala Leu Arg Gln Ser Val Glu Ala Asp Ile Asn Gly Leu Arg
245 250 255
Arg Val Leu Asp Glu Leu Thr Leu Thr Lys Ala Asp Leu Glu Met Gln
260 265 270
Ile Glu Ser Leu Thr Glu Glu Leu Ala Tyr Leu Lys Lys Asn His Glu
275 280 285
Glu Glu Met Lys Asp Leu Arg Asn Val Ser Thr Gly Asp Val Asn Val
290 295 300
Glu Met Asn Ala Ala Pro Gly Val Asp Leu Thr Gln Leu Leu Asn Asn
305 310 315 320
Met Arg Ser Gln Tyr Glu Gln Leu Ala Glu Gln Asn Arg Lys Asp Ala
325 330 335
Glu Ala Trp Phe Asn Glu Lys Ser Lys Glu Leu Thr Thr Glu Ile Asp
340 345 350
Asn Asn Ile Glu Gln Ile Ser Ser Tyr Lys Ser Glu Ile Thr Glu Leu
355 360 365
Arg Arg Asn Val Gln Ala Leu Glu Ile Glu Leu Gln Ser Gln Leu Ala
370 375 380
Leu Lys Gln Ser Leu Glu Ala Ser Leu Ala Glu Thr Glu Gly Arg Tyr
385 390 395 400
Cys Val Gln Leu Ser Gln Ile His Ala Gln Ile Ser Ala Leu Glu Glu
405 410 415
Gln Leu Gln Gln Ile Arg Ala Glu Thr Glu Cys Gln Asn Thr Glu Tyr
420 425 430
Gln Gln Leu Leu Asp Ile Lys Ile Arg Leu Glu Asn Glu Ile Gln Thr
435 440 445
Tyr Arg Ser Leu Leu Glu Gly Glu Gly Ser Ser Gly Gly Gly Gly Arg
450 455 460
Gly Gly Gly Ser Phe Gly Gly Gly Tyr Gly Gly Gly Ser Ser Gly Gly
465 470 475 480
Gly Ser Ser Gly Gly Gly Tyr Gly Gly Gly His Gly Gly Ser Ser Gly
485 490 495
Gly Gly Tyr Gly Gly Gly Ser Ser Gly Gly Gly Ser Ser Gly Gly Gly
500 505 510
Tyr Gly Gly Gly Ser Ser Ser Gly Gly His Gly Gly Gly Ser Ser Ser
515 520 525
Gly Gly His Gly Gly Ser Ser Ser Gly Gly Tyr Gly Gly Gly Ser Ser
530 535 540
Gly Gly Gly Gly Gly Gly Tyr Gly Gly Gly Ser Ser Gly Gly Gly Ser
545 550 555 560
Ser Ser Gly Gly Gly Tyr Gly Gly Gly Ser Ser Ser Gly Gly His Lys
565 570 575

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Ser Ser Ser Ser Gly Ser Val Gly Glu Ser Ser Ser Lys Gly Pro Arg
            580                 585                 590
Tyr

<210>  51

<211>  494

<212>  PRT

<213>  Homo sapiens


<400>  51
Met Asp Leu Ser Asn Asn Thr Met Ser Leu Ser Val Arg Thr Pro Gly
1               5                  10                  15
Leu Ser Arg Arg Leu Ser Ser Gln Ser Val Ile Gly Arg Pro Arg Gly
            20                  25                  30
Met Ser Ala Ser Ser Val Gly Ser Gly Tyr Gly Gly Ser Ala Phe Gly
        35                  40                  45
Phe Gly Ala Ser Cys Gly Gly Gly Phe Ser Ala Ala Ser Met Phe Gly
    50                  55                  60
Ser Ser Ser Gly Phe Gly Gly Gly Ser Gly Ser Ser Met Ala Gly Gly
65                  70                  75                  80
Leu Gly Ala Gly Tyr Gly Arg Ala Leu Gly Gly Gly Ser Phe Gly Gly
                85                  90                  95
Leu Gly Met Gly Phe Gly Gly Ser Pro Gly Gly Gly Ser Leu Gly Ile
            100                 105                 110
Leu Ser Gly Asn Asp Gly Gly Leu Leu Ser Gly Ser Glu Lys Glu Thr
        115                 120                 125
Met Gln Asn Leu Asn Asp Arg Leu Ala Ser Tyr Leu Asp Lys Val Arg
    130                 135                 140
Ala Leu Glu Glu Ala Asn Thr Glu Leu Glu Asn Lys Ile Arg Glu Trp
145                 150                 155                 160
Tyr Glu Thr Arg Gly Thr Gly Thr Ala Asp Ala Ser Gln Ser Asp Tyr
                165                 170                 175
Ser Lys Tyr Tyr Pro Leu Ile Glu Asp Leu Arg Asn Lys Ile Ile Ser
            180                 185                 190
Ala Ser Ile Gly Asn Ala Gln Leu Leu Leu Gln Ile Asp Asn Ala Arg
        195                 200                 205
Leu Ala Ala Glu Asp Phe Arg Met Lys Tyr Glu Asn Glu Leu Ala Leu
    210                 215                 220
Arg Gln Gly Val Glu Ala Asp Ile Asn Gly Leu Arg Arg Val Leu Asp
225                 230                 235                 240
Glu Leu Thr Leu Thr Arg Thr Asp Leu Glu Met Gln Ile Glu Ser Leu
                245                 250                 255
Asn Glu Glu Leu Ala Tyr Met Lys Lys Asn His Glu Asp Glu Leu Gln
            260                 265                 270
Ser Phe Arg Val Gly Gly Pro Gly Glu Val Ser Val Glu Met Asp Ala
        275                 280                 285
Ala Pro Gly Val Asp Leu Thr Arg Leu Leu Asn Asp Met Arg Ala Gln
    290                 295                 300
Tyr Glu Thr Ile Ala Glu Gln Asn Arg Lys Asp Ala Glu Ala Trp Phe
305                 310                 315                 320
Ile Glu Lys Ser Gly Glu Leu Arg Lys Glu Ile Ser Thr Asn Thr Glu
                325                 330                 335
Gln Leu Gln Ser Ser Lys Ser Glu Val Thr Asp Leu Arg Arg Ala Phe
            340                 345                 350
Gln Asn Leu Glu Ile Glu Leu Gln Ser Gln Leu Ala Met Lys Lys Ser
        355                 360                 365
Leu Glu Asp Ser Leu Ala Glu Ala Glu Gly Asp Tyr Cys Ala Gln Leu
    370                 375                 380
Ser Gln Val Gln Gln Leu Ile Ser Asn Leu Glu Ala Gln Leu Leu Gln
385                 390                 395                 400
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Val Arg Ala Asp Ala Glu Arg Gln Asn Val Asp His Gln Arg Leu Leu
405 410 415
Asn Val Lys Ala Arg Leu Glu Leu Glu Ile Glu Thr Tyr Arg Arg Leu
420 425 430
Leu Asp Gly Glu Ala Gln Gly Asp Gly Leu Glu Glu Ser Leu Phe Val
435 440 445
Thr Asp Ser Lys Ser Gln Ala Gln Ser Thr Asp Ser Ser Lys Asp Pro
450 455 460
Thr Lys Thr Arg Lys Ile Lys Thr Val Val Gln Glu Met Val Asn Gly
465 470 475 480
Glu Val Val Ser Ser Gln Val Gln Glu Ile Glu Glu Leu Met
485 490

<210> 52

<211> 361

<212> PRT

<213> Homo sapiens

<400> 52
Cys Asn Trp Phe Cys Glu Gly Ser Phe Asn Gly Ser Glu Lys Glu Thr
1 5 10 15
Met Gln Phe Leu Asn Asp Arg Leu Ala Ser Tyr Leu Glu Lys Val Arg
20 25 30
His Val Glu Arg Asp Asn Ala Glu Leu Glu Asn Leu Ile Arg Glu Arg
35 40 45
Ser Gln Gln Gln Glu Pro Leu Leu Cys Pro Ser Tyr Gln Ser Tyr Phe
50 55 60
Lys Thr Ile Glu Glu Leu Gln Gln Lys Ile Leu Cys Ser Lys Ser Glu
65 70 75 80
Asn Ala Arg Leu Val Val Gln Ile Asp Asn Ala Lys Leu Ala Ala Asp
85 90 95
Asp Phe Arg Thr Lys Tyr Gln Thr Glu Gln Ser Leu Arg Gln Leu Val
100 105 110
Glu Ser Asp Ile Asn Ser Leu Arg Arg Ile Leu Asp Glu Leu Thr Leu
115 120 125
Cys Arg Ser Asp Leu Glu Ala Gln Met Glu Ser Leu Lys Glu Glu Leu
130 135 140
Leu Ser Leu Lys Gln Asn His Glu Gln Glu Val Asn Thr Leu Arg Cys
145 150 155 160
Gln Leu Gly Asp Arg Leu Asn Val Glu Val Asp Ala Ala Pro Ala Val
165 170 175
Asp Leu Asn Gln Val Leu Asn Glu Thr Arg Asn Gln Tyr Glu Ala Leu
180 185 190
Val Glu Thr Asn Arg Arg Glu Val Glu Gln Trp Phe Ala Thr Gln Thr
195 200 205
Glu Glu Leu Asn Lys Gln Val Val Ser Ser Ser Glu Gln Leu Gln Ser
210 215 220
Tyr Gln Ala Glu Ile Ile Glu Leu Arg Arg Thr Val Asn Ala Leu Glu
225 230 235 240
Ile Glu Leu Gln Ala Gln His Asn Leu Arg Tyr Ser Leu Glu Asn Thr
245 250 255
Leu Thr Glu Ser Glu Ala Arg Tyr Ser Ser Gln Leu Ser Gln Val Gln
260 265 270
Ser Leu Ile Thr Asn Val Glu Ser Gln Leu Ala Glu Ile Arg Ser Asp
275 280 285
Leu Glu Arg Gln Asn Gln Glu Tyr Gln Val Leu Leu Asp Val Arg Ala
290 295 300
Arg Leu Glu Cys Glu Ile Asn Thr Tyr Arg Ser Leu Leu Glu Ser Glu
305 310 315 320
Asp Cys Lys Leu Pro Ser Asn Pro Cys Ala Thr Thr Asn Ala Cys Glu
325 330 335

Lys Pro Ile Gly Ser Cys Val Thr Asn Pro Cys Gly Pro Arg Ser Arg
340 345 350
Cys Gly Pro Cys Asn Thr Phe Gly Tyr
355 360

<210> 53

<211> 3282

<212> DNA

<213> Homo sapiens

<400> 53
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gccagggtga ggtgtgagct gtgcccacac aaagacgggg cattgaagag gactgataat 240
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aaccgccatg gatgtcgaca agctttccac gtcacctgtg cccaaatggc aggcttgctg 480
tgtgaggaag aagtgctgga ggtggacaac gtcaagtact gcggctactg caaataccac 540
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ggaggtggca gcatgggggg aggtggcagt ggtttcatct ctgggaggag aagccggtca 660
gcctcaccat ccacgcagca ggagaagcac cccacccacc acgagagggg ccagaagaag 720
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gcagcagctg cagctgcagc agtagcagca gcaggcggac ctccagtcct cactgcccag 3180
accaacccct tcctcagcct gtcgggagca gagggcagtg gcggtggccc caaaggaggg 3240
accgctgaca aaggagcctc agccaaccag gaaaaaggct aa 3282

<210> 54

<211> 2227

<212> DNA

<213> Homo sapiens

<400> 54
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atgttataat ttaccctggg tggaccaggg tcgtacaaaa gggcaacgct ccccagtccc 180
cccactcccg accccggaat catgcatcgg actacacgga tcaaaatcac agagctgaac 240
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cccatgtgtg acgtgcaggt ccataaaacc cggccgctgc tgagcatcag gtctgacaaa 420
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aggccctgag aggtctcagc tcttggagga gggctaaggc tttagcattg tgaagcgctg 2040
cacccccacc aaccttaccc tcaccgggga accctcacta gcaggactgg tggtggagtc 2100
tcacctgggg cctagagtgg aagtgggggt gggttaacct cacacaagca cagatcccag 2160
actttgccag aggcaaacag ggaattccgc cgatactgac gggctccagg agtcgtcgcc 2220
acactcg 2227

<210> 55

<211> 4283

<212> DNA

<213> Homo sapiens

<400> 55
ttgcgggaaa gagccaaacc ctggcgttgg ggggcccggg cggggagccc ctcccgcggt 60
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<211> 1646

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<213> Homo sapiens

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<212> DNA

<213> Homo sapiens

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<400> 76

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Met Lys Glu Met Val Gly Gly Cys Cys Val Cys Ser Asp Glu Arg Gly
1               5                  10                  15
Trp Ala Glu Asn Pro Leu Val Tyr Cys Asp Gly His Ala Cys Ser Val
            20                  25                  30
Ala Val His Gln Ala Cys Tyr Gly Ile Val Gln Val Pro Thr Gly Pro
        35                  40                  45
Trp Phe Cys Arg Lys Cys Glu Ser Gln Glu Arg Ala Ala Arg Val Arg
    50                  55                  60
Cys Glu Leu Cys Pro His Lys Asp Gly Ala Leu Lys Arg Thr Asp Asn
65                  70                  75                  80
Gly Gly Trp Ala His Val Val Cys Ala Leu Tyr Ile Pro Glu Val Gln
                85                  90                  95
Phe Ala Asn Val Leu Thr Met Glu Pro Ile Val Leu Gln Tyr Val Pro
            100                 105                 110
His Asp Arg Phe Asn Lys Thr Cys Tyr Ile Cys Glu Glu Thr Gly Arg
        115                 120                 125
Glu Ser Lys Ala Ala Ser Gly Ala Cys Met Thr Cys Asn Arg His Gly
    130                 135                 140
Cys Arg Gln Ala Phe His Val Thr Cys Ala Gln Met Ala Gly Leu Leu
145                 150                 155                 160
Cys Glu Glu Glu Val Leu Glu Val Asp Asn Val Lys Tyr Cys Gly Tyr
                165                 170                 175
Cys Lys Tyr His Phe Ser Lys Met Lys Thr Ser Arg His Ser Ser Gly
            180                 185                 190
Gly Gly Gly Gly Gly Ala Gly Gly Gly Gly Gly Ser Met Gly Gly Gly
        195                 200                 205
Gly Ser Gly Phe Ile Ser Gly Arg Arg Ser Arg Ser Ala Ser Pro Ser
    210                 215                 220
Thr Gln Gln Glu Lys His Pro Thr His His Glu Arg Gly Gln Lys Lys
225                 230                 235                 240
Ser Arg Lys Asp Lys Glu Arg Leu Lys Gln Lys His Lys Lys Arg Pro
                245                 250                 255
Glu Ser Pro Pro Ser Ile Leu Thr Pro Pro Val Val Pro Thr Ala Asp
            260                 265                 270
Lys Val Ser Ser Ser Ala Ser Ser Ser Ser His His Glu Ala Ser Thr
        275                 280                 285
Gln Glu Thr Ser Glu Ser Ser Arg Glu Ser Lys Gly Lys Lys Ser Ser
    290                 295                 300
Ser His Ser Leu Ser His Lys Gly Lys Lys Leu Ser Ser Gly Lys Gly
305                 310                 315                 320
Val Ser Ser Phe Thr Ser Ala Ser Ser Ser Ser Ser Ser Ser Ser Ser
                325                 330                 335
```

```
Ser Ser Gly Gly Pro Phe Gln Pro Ala Val Ser Ser Leu Gln Ser Ser
            340                 345                 350
Pro Asp Phe Ser Ala Phe Pro Lys Leu Glu Gln Pro Glu Glu Asp Lys
        355                 360                 365
Tyr Ser Lys Pro Thr Ala Pro Ala Pro Ser Ala Pro Pro Ser Pro Ser
    370                 375                 380
Ala Pro Glu Pro Pro Lys Ala Asp Leu Phe Glu Gln Lys Val Val Phe
385                 390                 395                 400
Ser Gly Phe Gly Pro Ile Met Arg Phe Ser Thr Thr Thr Ser Ser Ser
                405                 410                 415
Gly Arg Ala Arg Ala Pro Ser Pro Gly Asp Tyr Lys Ser Pro His Val
            420                 425                 430
Thr Gly Ser Gly Ala Ser Ala Gly Thr His Lys Arg Met Pro Ala Leu
        435                 440                 445
Ser Ala Thr Pro Val Pro Ala Asp Glu Thr Pro Glu Thr Gly Leu Lys
    450                 455                 460
Glu Lys Lys His Lys Ala Ser Lys Arg Ser Arg His Gly Pro Gly Arg
465                 470                 475                 480
Pro Lys Gly Ser Arg Asn Lys Glu Gly Thr Gly Gly Pro Ala Ala Pro
                485                 490                 495
Ser Leu Pro Ser Ala Gln Leu Ala Gly Phe Thr Ala Thr Ala Ala Ser
            500                 505                 510
Pro Phe Ser Gly Gly Ser Leu Val Ser Ser Gly Leu Gly Gly Leu Ser
        515                 520                 525
Ser Arg Thr Phe Gly Pro Ser Gly Ser Leu Pro Ser Leu Ser Leu Glu
    530                 535                 540
Ser Pro Leu Leu Gly Ala Gly Ile Tyr Thr Ser Asn Lys Asp Pro Ile
545                 550                 555                 560
Ser His Ser Gly Gly Met Leu Arg Ala Val Cys Ser Thr Pro Leu Ser
                565                 570                 575
Ser Ser Leu Leu Gly Pro Pro Gly Thr Ser Ala Leu Pro Arg Leu Ser
            580                 585                 590
Arg Ser Pro Phe Thr Ser Thr Leu Pro Ser Ser Ser Ala Ser Ile Ser
        595                 600                 605
Thr Thr Gln Val Phe Ser Leu Ala Gly Ser Thr Phe Ser Leu Pro Ser
    610                 615                 620
Thr His Ile Phe Gly Thr Pro Met Gly Ala Val Asn Pro Leu Leu Ser
625                 630                 635                 640
Gln Ala Glu Ser Ser His Thr Glu Pro Asp Leu Glu Asp Cys Ser Phe
                645                 650                 655
Arg Cys Arg Gly Thr Ser Pro Gln Glu Ser Leu Ser Ser Met Ser Pro
            660                 665                 670
Ile Ser Ser Leu Pro Ala Leu Phe Asp Gln Thr Ala Ser Ala Pro Cys
        675                 680                 685
Gly Gly Gly Gln Leu Asp Pro Ala Ala Pro Gly Thr Thr Asn Met Glu
    690                 695                 700
Gln Leu Leu Glu Lys Gln Gly Asp Gly Glu Ala Gly Val Asn Ile Val
705                 710                 715                 720
Glu Met Leu Lys Ala Leu His Ala Leu Gln Lys Glu Asn Gln Arg Leu
                725                 730                 735
Gln Glu Gln Ile Leu Ser Leu Thr Ala Lys Lys Glu Arg Leu Gln Ile
            740                 745                 750
Leu Asn Val Gln Leu Ser Val Pro Phe Pro Ala Leu Pro Ala Ala Leu
        755                 760                 765
Pro Ala Ala Asn Gly Pro Val Pro Gly Pro Tyr Gly Leu Pro Pro Gln
    770                 775                 780
Ala Gly Ser Ser Asp Ser Leu Ser Thr Ser Lys Ser Pro Pro Gly Lys
785                 790                 795                 800
Ser Ser Leu Gly Leu Asp Asn Ser Leu Ser Thr Ser Ser Glu Asp Pro
                805                 810                 815
His Ser Gly Cys Pro Ser Arg Ser Ser Ser Ser Leu Ser Phe His Ser
            820                 825                 830
Thr Pro Pro Pro Leu Pro Leu Leu Gln Gln Ser Pro Ala Thr Leu Pro
        835                 840                 845
Leu Ala Leu Pro Gly Ala Pro Ala Pro Leu Pro Pro Gln Pro Gln Asn
    850                 855                 860
```

```
Gly Leu Gly Arg Ala Pro Gly Ala Ala Gly Leu Gly Ala Met Pro Met
865                 870                 875                 880
Ala Glu Gly Leu Leu Gly Gly Leu Ala Gly Ser Gly Gly Leu Pro Leu
                885                 890                 895
Asn Gly Leu Leu Gly Gly Leu Asn Gly Ala Ala Ala Pro Asn Pro Ala
            900                 905                 910
Ser Leu Ser Gln Ala Gly Gly Ala Pro Thr Leu Gln Leu Pro Gly Cys
        915                 920                 925
Leu Asn Ser Leu Thr Glu Gln Gln Arg His Leu Leu Gln Gln Gln Glu
    930                 935                 940
Gln Gln Leu Gln Gln Leu Gln Gln Leu Leu Ala Ser Pro Gln Leu Thr
945                 950                 955                 960
Pro Glu His Gln Thr Val Val Tyr Gln Met Ile Gln Gln Ile Gln Gln
                965                 970                 975
Lys Arg Glu Leu Gln Arg Leu Gln Met Ala Gly Gly Ser Gln Leu Pro
            980                 985                 990
Met Ala Ser Leu Leu Ala Gly Ser  Ser Thr Pro Leu Leu  Ser Ala Gly
        995                 1000                1005
Thr Pro  Gly Leu Leu Pro Thr  Ala Ser Ala Pro Pro  Leu Leu Pro
    1010                1015                1020
Ala Gly  Ala Leu Val Ala Pro  Ser Leu Gly Asn Asn  Thr Ser Leu
    1025                1030                1035
Met Ala  Ala Ala Ala Ala Ala  Ala Ala Val Ala Ala  Ala Gly Gly
    1040                1045                1050
Pro Pro  Val Leu Thr Ala Gln  Thr Asn Pro Phe Leu  Ser Leu Ser
    1055                1060                1065
Gly Ala  Glu Gly Ser Gly Gly  Gly Pro Lys Gly Gly  Thr Ala Asp
    1070                1075                1080
Lys Gly  Ala Ser Ala Asn Gln  Glu Lys Gly
    1085                1090
<210>  77

<211>  344

<212>  PRT

<213>  Homo sapiens


<400>  77
Met His Arg Thr Thr Arg Ile Lys Ile Thr Glu Leu Asn Pro His Leu
1                   5                   10                  15
Met Cys Ala Leu Cys Gly Gly Tyr Phe Ile Asp Ala Thr Thr Ile Val
            20                  25                  30
Glu Cys Leu His Ser Phe Cys Lys Thr Cys Ile Val Arg Tyr Leu Glu
        35                  40                  45
Thr Asn Lys Tyr Cys Pro Met Cys Asp Val Gln Val His Lys Thr Arg
    50                  55                  60
Pro Leu Leu Ser Ile Arg Ser Asp Lys Thr Leu Gln Asp Ile Val Tyr
65                  70                  75                  80
Lys Leu Val Pro Gly Leu Phe Lys Asp Glu Met Lys Arg Arg Arg Asp
                85                  90                  95
Phe Tyr Ala Ala Tyr Pro Leu Thr Glu Val Pro Asn Gly Ser Asn Glu
            100                 105                 110
Asp Arg Gly Glu Val Leu Glu Gln Glu Lys Gly Ala Leu Ser Asp Asp
        115                 120                 125
Glu Ile Val Ser Leu Ser Ile Glu Phe Tyr Glu Gly Ala Arg Asp Arg
    130                 135                 140
Asp Glu Lys Lys Gly Pro Leu Glu Asn Gly Asp Gly Asp Lys Glu Lys
145                 150                 155                 160
Thr Gly Val Arg Phe Leu Arg Cys Pro Ala Ala Met Thr Val Met His
                165                 170                 175
Leu Ala Lys Phe Leu Arg Asn Lys Met Asp Val Pro Ser Lys Tyr Lys
            180                 185                 190
```

```
Val Glu Val Leu Tyr Glu Asp Glu Pro Leu Lys Glu Tyr Tyr Thr Leu
        195                 200                 205
Met Asp Ile Ala Tyr Ile Tyr Pro Trp Arg Arg Asn Gly Pro Leu Pro
    210                 215                 220
Leu Lys Tyr Arg Val Gln Pro Ala Cys Lys Arg Leu Thr Leu Ala Thr
225                 230                 235                 240
Val Pro Thr Pro Ser Glu Gly Thr Asn Thr Ser Gly Ala Ser Glu Cys
                245                 250                 255
Glu Ser Val Ser Asp Lys Ala Pro Ser Pro Ala Thr Leu Pro Ala Thr
            260                 265                 270
Ser Ser Ser Leu Pro Ser Pro Ala Thr Pro Ser His Gly Ser Pro Ser
        275                 280                 285
Ser His Gly Pro Pro Ala Thr His Pro Thr Ser Pro Thr Pro Pro Ser
    290                 295                 300
Thr Ala Ser Gly Ala Thr Thr Ala Ala Asn Gly Gly Ser Leu Asn Cys
305                 310                 315                 320
Leu Gln Thr Pro Ser Ser Thr Ser Arg Gly Arg Lys Met Thr Val Asn
                325                 330                 335
Gly Ala Pro Val Pro Pro Leu Thr
            340
```

<210> 78

<211> 416

<212> PRT

<213> Homo sapiens

<400> 78

```
Met Ser Ser Asn Cys Thr Ser Thr Thr Ala Val Ala Val Ala Pro Leu
1               5                   10                  15
Ser Ala Ser Lys Thr Lys Thr Lys Lys Lys His Phe Val Cys Gln Lys
            20                  25                  30
Val Lys Leu Phe Arg Ala Ser Glu Pro Ile Leu Ser Val Leu Met Trp
        35                  40                  45
Gly Val Asn His Thr Ile Asn Glu Leu Ser Asn Val Pro Val Pro Val
    50                  55                  60
Met Leu Met Pro Asp Asp Phe Lys Ala Tyr Ser Lys Ile Lys Val Asp
65                  70                  75                  80
Asn His Leu Phe Asn Lys Glu Asn Leu Pro Ser Arg Phe Lys Phe Lys
                85                  90                  95
Glu Tyr Cys Pro Met Val Phe Arg Asn Leu Arg Glu Arg Phe Gly Ile
            100                 105                 110
Asp Asp Gln Asp Tyr Gln Asn Ser Val Thr Arg Ser Ala Pro Ile Asn
        115                 120                 125
Ser Asp Ser Gln Gly Arg Cys Gly Thr Arg Phe Leu Thr Thr Tyr Asp
    130                 135                 140
Arg Arg Phe Val Ile Lys Thr Val Ser Ser Glu Asp Val Ala Glu Met
145                 150                 155                 160
His Asn Ile Leu Lys Lys Tyr His Gln Phe Ile Val Glu Cys His Gly
                165                 170                 175
Asn Thr Leu Leu Pro Gln Phe Leu Gly Met Tyr Arg Leu Thr Val Asp
            180                 185                 190
Gly Val Glu Thr Tyr Met Val Val Thr Arg Asn Val Phe Ser His Arg
        195                 200                 205
Leu Thr Val His Arg Lys Tyr Asp Leu Lys Gly Ser Thr Val Ala Arg
    210                 215                 220
Glu Ala Ser Asp Lys Glu Lys Ala Lys Asp Leu Pro Thr Phe Lys Asp
225                 230                 235                 240
Asn Asp Phe Leu Asn Glu Gly Gln Lys Leu His Val Gly Glu Glu Ser
                245                 250                 255
Lys Lys Asn Phe Leu Glu Lys Leu Lys Arg Asp Val Glu Phe Leu Ala
            260                 265                 270
```

Gln Leu Lys Ile Met Asp Tyr Ser Leu Leu Val Gly Ile His Asp Val
275 280 285
Asp Arg Ala Glu Gln Glu Glu Met Glu Val Glu Glu Arg Ala Glu Asp
290 295 300
Glu Glu Cys Glu Asn Asp Gly Val Gly Gly Asn Leu Leu Cys Ser Tyr
305 310 315 320
Gly Thr Pro Pro Asp Ser Pro Gly Asn Leu Leu Ser Phe Pro Arg Phe
325 330 335
Phe Gly Pro Gly Glu Phe Asp Pro Ser Val Asp Val Tyr Ala Met Lys
340 345 350
Ser His Glu Ser Ser Pro Lys Lys Glu Val Tyr Phe Met Ala Ile Ile
355 360 365
Asp Ile Leu Thr Pro Tyr Asp Thr Lys Lys Lys Ala Ala His Ala Ala
370 375 380
Lys Thr Val Lys His Gly Ala Gly Ala Glu Ile Ser Thr Val Asn Pro
385 390 395 400
Glu Gln Tyr Ser Lys Arg Phe Asn Glu Phe Met Ser Asn Ile Leu Thr
405 410 415

<210> 79

<211> 500

<212> PRT

<213> Homo sapiens

<400> 79
Met Arg Gly Glu Leu Trp Leu Leu Val Leu Val Leu Arg Glu Ala Ala
1 5 10 15
Arg Ala Leu Ser Pro Gln Pro Gly Ala Gly His Asp Glu Gly Pro Gly
20 25 30
Ser Gly Trp Ala Ala Lys Gly Thr Val Arg Gly Trp Asn Arg Arg Ala
35 40 45
Arg Glu Ser Pro Gly His Val Ser Glu Pro Asp Arg Thr Gln Leu Ser
50 55 60
Gln Asp Leu Gly Gly Gly Thr Leu Ala Met Asp Thr Leu Pro Asp Asn
65 70 75 80
Arg Thr Arg Val Val Glu Asp Asn His Ser Tyr Tyr Val Ser Arg Leu
85 90 95
Tyr Gly Pro Ser Glu Pro His Ser Arg Glu Leu Trp Val Asp Val Ala
100 105 110
Glu Ala Asn Arg Ser Gln Val Lys Ile His Thr Ile Leu Ser Asn Thr
115 120 125
His Arg Gln Ala Ser Arg Val Val Leu Ser Phe Asp Phe Pro Phe Tyr
130 135 140
Gly His Pro Leu Arg Gln Ile Thr Ile Ala Thr Gly Gly Phe Ile Phe
145 150 155 160
Met Gly Asp Val Ile His Arg Met Leu Thr Ala Thr Gln Tyr Val Ala
165 170 175
Pro Leu Met Ala Asn Phe Asn Pro Gly Tyr Ser Asp Asn Ser Thr Val
180 185 190
Val Tyr Phe Asp Asn Gly Thr Val Phe Val Val Gln Trp Asp His Val
195 200 205
Tyr Leu Gln Gly Trp Glu Asp Lys Gly Ser Phe Thr Phe Gln Ala Ala
210 215 220
Leu His His Asp Gly Arg Ile Val Phe Ala Tyr Lys Glu Ile Pro Met
225 230 235 240
Ser Val Pro Glu Ile Ser Ser Ser Gln His Pro Val Lys Thr Gly Leu
245 250 255
Ser Asp Ala Phe Met Ile Leu Asn Pro Ser Pro Asp Val Pro Glu Ser
260 265 270
Arg Arg Arg Ser Ile Phe Glu Tyr His Arg Ile Glu Leu Asp Pro Ser
275 280 285

Lys Val Thr Ser Met Ser Ala Val Glu Phe Thr Pro Leu Pro Thr Cys
290 295 300
Leu Gln His Arg Ser Cys Asp Ala Cys Met Ser Ser Asp Leu Thr Phe
305 310 315 320
Asn Cys Ser Trp Cys His Val Leu Gln Arg Cys Ser Ser Gly Phe Asp
325 330 335
Arg Tyr Arg Gln Glu Trp Met Asp Tyr Gly Cys Ala Gln Glu Ala Glu
340 345 350
Gly Arg Met Cys Glu Asp Phe Gln Asp Glu Asp His Asp Ser Ala Ser
355 360 365
Pro Asp Thr Ser Phe Ser Pro Tyr Asp Gly Asp Leu Thr Thr Thr Ser
370 375 380
Ser Ser Leu Phe Ile Asp Ser Leu Thr Thr Glu Asp Asp Thr Lys Leu
385 390 395 400
Asn Pro Tyr Ala Gly Gly Asp Gly Leu Gln Asn Asn Leu Ser Pro Lys
405 410 415
Thr Lys Gly Thr Pro Val His Leu Gly Thr Ile Val Gly Ile Val Leu
420 425 430
Ala Val Leu Leu Val Ala Ala Ile Ile Leu Ala Gly Ile Tyr Ile Asn
435 440 445
Gly His Pro Thr Ser Asn Ala Ala Leu Phe Phe Ile Glu Arg Arg Pro
450 455 460
His His Trp Pro Ala Met Lys Phe Arg Ser His Pro Asp His Ser Thr
465 470 475 480
Tyr Ala Glu Val Glu Pro Ser Gly His Glu Lys Glu Gly Phe Met Glu
485 490 495
Ala Glu Gln Cys
500

<210> 80

<211> 509

<212> PRT

<213> Homo sapiens

<400> 80
Met Glu Asp Ile Gln Thr Asn Ala Glu Leu Lys Ser Thr Gln Glu Gln
1 5 10 15
Ser Val Pro Ala Glu Ser Ala Ala Val Leu Asn Asp Tyr Ser Leu Thr
20 25 30
Lys Ser His Glu Met Glu Asn Val Asp Ser Gly Glu Gly Pro Ala Asn
35 40 45
Glu Asp Glu Asp Ile Gly Asp Asp Ser Met Lys Val Lys Asp Glu Tyr
50 55 60
Ser Glu Arg Asp Glu Asn Val Leu Lys Ser Glu Pro Met Gly Asn Ala
65 70 75 80
Glu Glu Pro Glu Ile Pro Tyr Ser Tyr Ser Arg Glu Tyr Asn Glu Tyr
85 90 95
Glu Asn Ile Lys Leu Glu Arg His Val Val Ser Phe Asp Ser Ser Arg
100 105 110
Pro Thr Ser Gly Lys Met Asn Cys Asp Val Cys Gly Leu Ser Cys Ile
115 120 125
Ser Phe Asn Val Leu Met Val His Lys Arg Ser His Thr Gly Glu Arg
130 135 140
Pro Phe Gln Cys Asn Gln Cys Gly Ala Ser Phe Thr Gln Lys Gly Asn
145 150 155 160
Leu Leu Arg His Ile Lys Leu His Thr Gly Glu Lys Pro Phe Lys Cys
165 170 175
His Leu Cys Asn Tyr Ala Cys Gln Arg Arg Asp Ala Leu Thr Gly His
180 185 190
Leu Arg Thr His Ser Val Glu Lys Pro Tyr Lys Cys Glu Phe Cys Gly
195 200 205

```
Arg Ser Tyr Lys Gln Arg Ser Ser Leu Glu Glu His Lys Glu Arg Cys
    210                 215                 220
Arg Thr Phe Leu Gln Ser Thr Asp Pro Gly Asp Thr Ala Ser Ala Glu
225                 230                 235                 240
Ala Arg His Ile Lys Ala Glu Met Gly Ser Glu Arg Ala Leu Val Leu
                245                 250                 255
Asp Arg Leu Ala Ser Asn Val Ala Lys Arg Lys Ser Ser Met Pro Gln
            260                 265                 270
Lys Phe Ile Gly Glu Lys Arg His Cys Phe Asp Val Asn Tyr Asn Ser
        275                 280                 285
Ser Tyr Met Tyr Glu Lys Glu Ser Glu Leu Ile Gln Thr Arg Met Met
    290                 295                 300
Asp Gln Ala Ile Asn Asn Ala Ile Ser Tyr Leu Gly Ala Glu Ala Leu
305                 310                 315                 320
Cys Pro Leu Val Gln Thr Pro Pro Ala Pro Thr Ser Glu Met Val Pro
                325                 330                 335
Val Ile Ser Ser Met Tyr Pro Ile Ala Leu Thr Arg Ala Glu Met Ser
            340                 345                 350
Asn Gly Ala Pro Gln Glu Leu Glu Arg Lys Ser Ile Leu Leu Pro Glu
        355                 360                 365
Lys Ser Val Pro Ser Glu Arg Gly Leu Ser Pro Asn Asn Ser Gly His
    370                 375                 380
Asp Ser Thr Asp Thr Asp Ser Asn His Glu Glu Arg Gln Asn His Ile
385                 390                 395                 400
Tyr Gln Gln Asn His Met Val Leu Ser Arg Ala Arg Asn Gly Met Pro
                405                 410                 415
Leu Leu Lys Glu Val Pro Arg Ser Tyr Glu Leu Leu Lys Pro Pro Pro
            420                 425                 430
Ile Cys Pro Arg Asp Ser Val Lys Val Ile Asp Lys Glu Gly Glu Val
        435                 440                 445
Met Asp Val Tyr Arg Cys Asp His Cys Arg Val Leu Phe Leu Asp Tyr
    450                 455                 460
Val Met Phe Thr Ile His Met Gly Cys His Gly Phe Arg Asp Pro Phe
465                 470                 475                 480
Glu Cys Asn Met Cys Gly Asp Arg Ser His Asp Arg Tyr Glu Phe Ser
                485                 490                 495
Ser His Ile Ala Arg Gly Glu His Arg Ser Leu Leu Lys
            500                 505
<210>  81

<211>  440

<212>  PRT

<213>  Homo sapiens


<400>  81
Met Pro Ile Pro Pro Pro Pro Pro Pro Pro Pro Gly Pro Pro Pro Pro
1               5                   10                  15
Pro Thr Phe His Gln Ala Asn Thr Glu Gln Pro Lys Leu Ser Arg Asp
            20                  25                  30
Glu Gln Arg Gly Arg Gly Ala Leu Leu Gln Asp Ile Cys Lys Gly Thr
        35                  40                  45
Lys Leu Lys Lys Val Thr Asn Ile Asn Asp Arg Ser Ala Pro Ile Leu
    50                  55                  60
Glu Lys Pro Lys Gly Ser Ser Gly Gly Tyr Gly Ser Gly Gly Ala Ala
65                  70                  75                  80
Leu Gln Pro Lys Gly Gly Leu Phe Gln Gly Gly Val Leu Lys Leu Arg
                85                  90                  95
Pro Val Gly Ala Lys Asp Gly Ser Glu Asn Leu Ala Gly Lys Pro Ala
            100                 105                 110
Leu Gln Ile Pro Ser Ser Arg Ala Ala Ala Pro Arg Pro Pro Val Ser
        115                 120                 125
```

```
Ala Ala Ser Gly Arg Pro Gln Asp Asp Thr Asp Ser Ser Arg Ala Ser
    130                 135                 140
Leu Pro Glu Leu Pro Arg Met Gln Arg Pro Ser Leu Pro Asp Leu Ser
145                 150                 155                 160
Arg Pro Asn Thr Thr Ser Ser Thr Gly Met Lys His Ser Ser Ser Ala
                165                 170                 175
Pro Pro Pro Pro Pro Pro Gly Arg Arg Ala Asn Ala Pro Pro Thr Pro
            180                 185                 190
Leu Pro Met His Ser Ser Lys Ala Pro Ala Tyr Asn Arg Glu Lys Pro
        195                 200                 205
Leu Pro Pro Thr Pro Gly Gln Arg Leu His Pro Gly Arg Glu Gly Pro
    210                 215                 220
Pro Ala Pro Pro Pro Val Lys Pro Pro Pro Ser Pro Val Asn Ile Arg
225                 230                 235                 240
Thr Gly Pro Ser Gly Gln Ser Leu Ala Pro Pro Pro Pro Pro Tyr Arg
                245                 250                 255
Gln Pro Pro Gly Val Pro Asn Gly Pro Ser Ser Pro Thr Asn Glu Ser
            260                 265                 270
Ala Pro Glu Leu Pro Gln Arg His Asn Ser Leu His Arg Lys Thr Pro
        275                 280                 285
Gly Pro Val Arg Gly Leu Ala Pro Pro Pro Pro Thr Ser Ala Ser Pro
    290                 295                 300
Ser Leu Leu Ser Asn Arg Pro Pro Pro Pro Ala Arg Asp Pro Pro Ser
305                 310                 315                 320
Arg Gly Ala Ala Pro Pro Pro Pro Pro Pro Val Ile Arg Asn Gly Ala
                325                 330                 335
Arg Asp Ala Pro Pro Pro Pro Pro Pro Tyr Arg Met His Gly Ser Glu
            340                 345                 350
Pro Pro Ser Arg Gly Lys Pro Pro Pro Pro Pro Ser Arg Thr Pro Ala
        355                 360                 365
Gly Pro Pro Pro Pro Pro Pro Pro Pro Leu Arg Asn Gly His Arg Asp
    370                 375                 380
Ser Ile Thr Thr Val Arg Ser Phe Leu Asp Asp Phe Glu Ser Lys Tyr
385                 390                 395                 400
Ser Phe His Pro Val Glu Asp Phe Pro Ala Pro Glu Glu Tyr Lys His
                405                 410                 415
Phe Gln Arg Ile Tyr Pro Ser Lys Thr Asn Arg Ala Ala Arg Gly Ala
            420                 425                 430
Pro Pro Leu Pro Pro Ile Leu Arg
        435                 440
<210>  82

<211>  205

<212>  PRT

<213>  Homo sapiens


<400>  82
Met Ser Ile Met Ser Tyr Asn Gly Gly Ala Val Met Ala Met Lys Gly
1                   5                   10                  15
Lys Asn Cys Val Ala Ile Ala Ala Asp Arg Arg Phe Gly Ile Gln Ala
            20                  25                  30
Gln Met Val Thr Thr Asp Phe Gln Lys Ile Phe Pro Met Gly Asp Arg
        35                  40                  45
Leu Tyr Ile Gly Leu Ala Gly Leu Ala Thr Asp Val Gln Thr Val Ala
    50                  55                  60
Gln Arg Leu Lys Phe Arg Leu Asn Leu Tyr Glu Leu Lys Glu Gly Arg
65                  70                  75                  80
Gln Ile Lys Pro Tyr Thr Leu Met Ser Met Val Ala Asn Leu Leu Tyr
                85                  90                  95
Glu Lys Arg Phe Gly Pro Tyr Tyr Thr Glu Pro Val Ile Ala Gly Leu
            100                 105                 110
```

Asp Pro Lys Thr Phe Lys Pro Phe Ile Cys Ser Leu Asp Leu Ile Gly
115 120 125
Cys Pro Met Val Thr Asp Asp Phe Val Val Ser Gly Thr Cys Ala Glu
130 135 140
Gln Met Tyr Gly Met Cys Glu Ser Leu Trp Glu Pro Asn Met Asp Pro
145 150 155 160
Asp His Leu Phe Glu Thr Ile Ser Gln Ala Met Leu Asn Ala Val Asp
165 170 175
Arg Asp Ala Val Ser Gly Met Gly Val Ile Val His Ile Ile Glu Lys
180 185 190
Asp Lys Ile Thr Thr Arg Thr Leu Lys Ala Arg Met Asp
195 200 205

<210> 83

<211> 190

<212> PRT

<213> Homo sapiens

<400> 83
Leu Thr Arg Ser Cys Ser Thr Cys Cys Pro Ala Val Ala Cys Leu Val
1 5 10 15
Gly Arg Gly Val Val Thr Ser Gly Ala Met His Gln Cys Trp Gly Glu
20 25 30
Glu Met Leu Gln Gly Met Leu Leu Trp Gly Trp Ala Thr Cys Pro Leu
35 40 45
Ser Asn Pro Gly Arg Trp Gly Arg Thr Val Gly Leu Gln His Pro Ala
50 55 60
Val Val Ser Ala Phe Arg Ala Leu Leu Leu Leu Met Leu Thr Val His
65 70 75 80
Val Ser Tyr Leu Ser Leu Ile Arg Phe Asp Tyr Gly Tyr Asn Leu Val
85 90 95
Ala Asn Val Ala Ile Gly Leu Val Asn Val Val Trp Trp Leu Ala Trp
100 105 110
Cys Leu Trp Asn Gln Arg Arg Leu Pro His Val Arg Lys Cys Val Val
115 120 125
Val Val Leu Leu Leu Gln Gly Leu Ser Leu Leu Glu Leu Leu Asp Phe
130 135 140
Pro Pro Leu Phe Trp Val Leu Asp Ala His Ala Ile Trp His Ile Ser
145 150 155 160
Thr Ile Pro Val His Val Leu Phe Phe Ser Phe Leu Glu Asp Asp Ser
165 170 175
Leu Tyr Leu Leu Lys Glu Ser Glu Asp Lys Phe Lys Leu Asp
180 185 190

<210> 84

<211> 368

<212> PRT

<213> Homo sapiens

<400> 84
Ala Pro Pro Pro Ala Ala Ser Gln Gly Glu Arg Met Ala Gly Leu Ala
1 5 10 15
Ala Arg Leu Val Leu Leu Ala Gly Ala Ala Ala Leu Ala Ser Gly Ser
20 25 30
Gln Gly Asp Arg Glu Pro Val Tyr Arg Asp Cys Val Leu Gln Cys Glu
35 40 45
Glu Gln Asn Cys Ser Gly Gly Ala Leu Asn His Phe Arg Ser Arg Gln
50 55 60

```
Pro Ile Tyr Met Ser Leu Ala Gly Trp Thr Cys Arg Asp Asp Cys Lys
65                  70                  75                  80
Tyr Glu Cys Met Trp Val Thr Val Gly Leu Tyr Leu Gln Glu Gly His
                85                  90                  95
Lys Val Pro Gln Phe His Gly Lys Trp Pro Phe Ser Arg Phe Leu Phe
            100                 105                 110
Phe Gln Glu Pro Ala Ser Ala Val Ala Ser Phe Leu Asn Gly Leu Ala
        115                 120                 125
Ser Leu Val Met Leu Cys Arg Tyr Arg Thr Phe Val Pro Ala Ser Ser
    130                 135                 140
Pro Met Tyr His Thr Cys Val Ala Phe Ala Trp Val Ser Leu Asn Ala
145                 150                 155                 160
Trp Phe Trp Ser Thr Val Phe His Thr Arg Asp Thr Asp Leu Thr Glu
                165                 170                 175
Lys Met Asp Tyr Phe Cys Ala Ser Thr Val Ile Leu His Ser Ile Tyr
            180                 185                 190
Leu Cys Cys Val Arg Thr Val Gly Leu Gln His Pro Ala Val Val Ser
        195                 200                 205
Ala Phe Arg Ala Leu Leu Leu Leu Met Leu Thr Val His Val Ser Tyr
    210                 215                 220
Leu Ser Leu Ile Arg Phe Asp Tyr Gly Tyr Asn Leu Val Ala Asn Val
225                 230                 235                 240
Ala Ile Gly Leu Val Asn Val Val Trp Trp Leu Ala Trp Cys Leu Trp
                245                 250                 255
Asn Gln Arg Arg Leu Pro His Val Arg Lys Cys Val Val Val Val Leu
            260                 265                 270
Leu Leu Gln Gly Leu Ser Leu Leu Glu Leu Leu Asp Phe Pro Pro Leu
        275                 280                 285
Phe Trp Val Leu Asp Ala His Ala Ile Trp His Ile Ser Thr Ile Pro
    290                 295                 300
Val His Val Leu Phe Phe Ser Phe Leu Glu Asp Asp Ser Leu Tyr Leu
305                 310                 315                 320
Leu Lys Glu Ser Glu Asp Lys Phe Lys Leu Val Glu Ala Asp Trp Ile
                325                 330                 335
Phe Ala Leu Pro Leu Thr Pro Cys Pro Ser Leu Arg Glu Gly Ser Tyr
            340                 345                 350
Ala Arg Thr Pro Thr Ser Gly Thr Arg Val Ala Cys Ala Ser Phe Phe
        355                 360                 365
<210>  85

<211>  190

<212>  PRT

<213>  Homo sapiens


<400>  85
Leu Thr Arg Ser Cys Ser Thr Cys Cys Pro Ala Val Ala Cys Leu Val
1               5                   10                  15
Gly Arg Gly Val Val Thr Ser Gly Ala Met His Gln Cys Trp Gly Glu
            20                  25                  30
Glu Met Leu Gln Gly Met Leu Leu Trp Gly Trp Ala Thr Cys Pro Leu
        35                  40                  45
Ser Asn Pro Gly Arg Trp Gly Arg Thr Val Gly Leu Gln His Pro Ala
    50                  55                  60
Val Val Ser Ala Phe Arg Ala Leu Leu Leu Leu Met Leu Thr Val His
65                  70                  75                  80
Val Ser Tyr Leu Ser Leu Ile Arg Phe Asp Tyr Gly Tyr Asn Leu Val
                85                  90                  95
Ala Asn Val Ala Ile Gly Leu Val Asn Val Val Trp Trp Leu Ala Trp
            100                 105                 110
Cys Leu Trp Asn Gln Arg Arg Leu Pro His Val Arg Lys Cys Val Val
        115                 120                 125
```

```
Val Val Leu Leu Leu Gln Gly Leu Ser Leu Leu Glu Leu Leu Asp Phe
    130                 135                 140
Pro Pro Leu Phe Trp Val Leu Asp Ala His Ala Ile Trp His Ile Ser
145                 150                 155                 160
Thr Ile Pro Val His Val Leu Phe Phe Ser Phe Leu Glu Asp Asp Ser
                165                 170                 175
Leu Tyr Leu Leu Lys Glu Ser Glu Asp Lys Phe Lys Leu Asp
            180                 185                 190
```

<210> 86

<211> 318

<212> PRT

<213> Homo sapiens

<400> 86

```
Met Ala Gly Leu Ala Ala Arg Leu Val Leu Leu Ala Gly Ala Ala Ala
1               5                   10                  15
Leu Ala Ser Gly Ser Gln Gly Asp Arg Glu Pro Val Tyr Arg Asp Cys
            20                  25                  30
Val Leu Gln Cys Glu Glu Gln Asn Cys Ser Gly Gly Ala Leu Asn His
        35                  40                  45
Phe Arg Ser Arg Gln Pro Ile Tyr Met Ser Leu Ala Gly Trp Thr Cys
    50                  55                  60
Arg Asp Asp Cys Lys Tyr Glu Cys Met Trp Val Thr Val Gly Leu Tyr
65                  70                  75                  80
Leu Gln Glu Gly His Lys Val Pro Gln Phe His Gly Lys Trp Pro Phe
                85                  90                  95
Ser Arg Phe Leu Phe Phe Gln Glu Pro Ala Ser Ala Val Ala Ser Phe
            100                 105                 110
Leu Asn Gly Leu Ala Ser Leu Val Met Leu Cys Arg Tyr Arg Thr Phe
        115                 120                 125
Val Pro Ala Ser Ser Pro Met Tyr His Thr Cys Val Ala Phe Ala Trp
    130                 135                 140
Val Ser Leu Asn Ala Trp Phe Trp Ser Thr Val Phe His Thr Arg Asp
145                 150                 155                 160
Thr Asp Leu Gln Arg Lys Trp Thr Thr Ser Val Pro Pro Val Ser Tyr
                165                 170                 175
Thr Gln Ser Thr Cys Ala Ala Ser Gly Pro Trp Gly Cys Ser Thr Gln
            180                 185                 190
Leu Trp Ser Ser Ala Phe Arg Ala Leu Leu Leu Leu Met Leu Thr Val
        195                 200                 205
His Val Ser Tyr Leu Ser Leu Ile Arg Phe Asp Tyr Gly Tyr Asn Leu
    210                 215                 220
Val Ala Asn Val Ala Ile Gly Leu Val Asn Val Val Trp Trp Leu Ala
225                 230                 235                 240
Trp Cys Leu Trp Asn Gln Arg Arg Leu Pro His Val Arg Lys Cys Val
                245                 250                 255
Val Val Val Leu Leu Leu Gln Gly Leu Ser Leu Leu Glu Leu Leu Asp
            260                 265                 270
Phe Pro Pro Leu Phe Trp Val Leu Asp Ala His Ala Ile Trp His Ile
        275                 280                 285
Ser Thr Ile Pro Val His Val Leu Phe Phe Ser Phe Leu Glu Asp Asp
    290                 295                 300
Ser Leu Tyr Leu Leu Lys Glu Ser Glu Asp Lys Phe Lys Leu
305                 310                 315
```

<210> 87

<211> 226

<212> PRT

<213> Homo sapiens

<400> 87
Met Ala Gly Leu Ala Ala Arg Leu Val Leu Leu Ala Gly Ala Ala Ala
1 5 10 15
Leu Ala Ser Gly Ser Gln Gly Asp Arg Glu Pro Val Tyr Arg Asp Cys
20 25 30
Val Leu Gln Cys Glu Glu Gln Asn Cys Ser Gly Gly Ala Leu Asn His
35 40 45
Phe Arg Ser Arg Gln Pro Ile Tyr Met Ser Leu Ala Gly Trp Thr Cys
50 55 60
Arg Asp Asp Cys Lys Tyr Glu Cys Met Trp Val Thr Val Gly Leu Tyr
65 70 75 80
Leu Gln Glu Gly His Lys Val Pro Gln Phe His Gly Lys Trp Pro Phe
85 90 95
Ser Arg Phe Leu Phe Phe Gln Glu Pro Ala Ser Ala Val Ala Ser Phe
100 105 110
Leu Asn Gly Leu Ala Ser Leu Val Met Leu Cys Arg Tyr Arg Thr Phe
115 120 125
Val Pro Ala Ser Ser Pro Met Tyr His Thr Cys Val Ala Phe Ala Trp
130 135 140
Val Ser Leu Asn Ala Trp Phe Trp Ser Thr Val Phe His Thr Arg Asp
145 150 155 160
Thr Asp Leu Thr Glu Lys Met Asp Tyr Phe Cys Ala Ser Thr Val Ile
165 170 175
Leu His Ser Ile Tyr Leu Cys Cys Val Arg Pro Gly Gln Arg Gly Val
180 185 190
Val Ala Gly Leu Val Pro Val Glu Pro Ala Ala Ala Ala Ser Arg Ala
195 200 205
Gln Val Arg Gly Gly Gly Leu Ala Ala Ala Gly Ala Val Pro Ala Arg
210 215 220
Ala Ala
225

<210> 88

<211> 320

<212> PRT

<213> Homo sapiens

<400> 88
Met Ala Gly Leu Ala Ala Arg Leu Val Leu Leu Ala Gly Ala Ala Ala
1 5 10 15
Leu Ala Ser Gly Ser Gln Gly Asp Arg Glu Pro Val Tyr Arg Asp Cys
20 25 30
Val Leu Gln Cys Glu Glu Gln Asn Cys Ser Gly Gly Ala Leu Asn His
35 40 45
Phe Arg Ser Arg Gln Pro Ile Tyr Met Ser Leu Ala Gly Trp Thr Cys
50 55 60
Arg Asp Asp Cys Lys Tyr Glu Cys Met Trp Val Thr Val Gly Leu Tyr
65 70 75 80
Leu Gln Glu Gly His Lys Val Pro Gln Phe His Gly Lys Trp Pro Phe
85 90 95
Ser Arg Phe Leu Phe Phe Gln Glu Pro Ala Ser Ala Val Ala Ser Phe
100 105 110
Leu Asn Gly Leu Ala Ser Leu Val Met Leu Cys Arg Tyr Arg Thr Phe
115 120 125
Val Pro Ala Ser Ser Pro Met Tyr His Thr Cys Val Ala Phe Ala Trp
130 135 140
Val Ser Leu Asn Ala Trp Phe Trp Ser Thr Val Phe His Thr Arg Asp
145 150 155 160

Thr Asp Leu Thr Glu Lys Met Asp Tyr Phe Cys Ala Ser Thr Val Ile
165 170 175
Leu His Ser Ile Tyr Leu Cys Cys Val Arg Thr Val Gly Leu Gln His
180 185 190
Pro Ala Val Val Ser Ala Phe Arg Ala Leu Leu Leu Leu Met Leu Thr
195 200 205
Val His Val Ser Tyr Leu Ser Leu Ile Arg Phe Asp Tyr Gly Tyr Asn
210 215 220
Leu Val Ala Asn Val Ala Ile Gly Leu Val Asn Val Val Trp Trp Leu
225 230 235 240
Ala Trp Cys Leu Trp Asn Gln Arg Arg Leu Pro His Val Arg Lys Cys
245 250 255
Val Val Val Val Leu Leu Leu Gln Gly Leu Ser Leu Leu Glu Leu Leu
260 265 270
Asp Phe Pro Pro Leu Phe Trp Val Leu Asp Ala His Ala Ile Trp His
275 280 285
Ile Ser Thr Ile Pro Val His Val Leu Phe Phe Ser Phe Leu Glu Asp
290 295 300
Asp Ser Leu Tyr Leu Leu Lys Glu Ser Glu Asp Lys Phe Lys Leu Asp
305 310 315 320

<210> 89

<211> 217

<212> PRT

<213> Homo sapiens

<400> 89
Ala Pro Pro Pro Ala Ala Ser Gln Gly Glu Arg Met Ala Gly Leu Ala
1 5 10 15
Ala Arg Leu Val Leu Leu Ala Gly Ala Ala Ala Leu Ala Ser Gly Ser
20 25 30
Gln Gly Asp Arg Glu Pro Val Tyr Arg Asp Cys Val Leu Gln Cys Glu
35 40 45
Glu Gln Asn Cys Ser Gly Gly Ala Leu Asn His Phe Arg Ser Arg Gln
50 55 60
Pro Ile Tyr Met Ser Leu Ala Gly Trp Thr Cys Arg Asp Asp Cys Lys
65 70 75 80
Tyr Glu Cys Met Trp Val Thr Val Gly Leu Tyr Leu Gln Glu Gly His
85 90 95
Lys Val Pro Gln Phe His Gly Lys Trp Pro Phe Ser Arg Phe Leu Phe
100 105 110
Phe Gln Glu Pro Ala Ser Ala Val Ala Ser Phe Leu Asn Gly Leu Ala
115 120 125
Ser Leu Val Met Leu Cys Arg Tyr Arg Thr Phe Val Pro Ala Ser Ser
130 135 140
Pro Met Tyr His Thr Cys Val Ala Phe Ala Trp Val Ser Leu Asn Ala
145 150 155 160
Trp Phe Trp Ser Thr Val Phe His Thr Arg Asp Thr Asp Leu Thr Glu
165 170 175
Lys Met Asp Tyr Phe Cys Ala Ser Thr Val Ile Leu His Ser Ile Tyr
180 185 190
Leu Cys Cys Val Ser Phe Leu Glu Asp Asp Ser Leu Tyr Leu Leu Lys
195 200 205
Glu Ser Glu Asp Lys Phe Lys Leu Asp
210 215

<210> 90

<211> 153

<212> PRT

<213> Homo sapiens

<400> 90
Met Asn Val Gly Thr Ala His Ser Glu Val Asn Pro Asn Thr Arg Val
1 5 10 15
Met Asn Ser Arg Gly Ile Trp Leu Ser Tyr Val Leu Ala Ile Gly Leu
20 25 30
Leu His Ile Val Leu Leu Ser Ile Pro Phe Val Ser Val Pro Val Val
35 40 45
Trp Thr Leu Thr Asn Leu Ile His Asn Met Gly Met Tyr Ile Phe Leu
50 55 60
His Thr Val Lys Gly Thr Pro Phe Glu Thr Pro Asp Gln Gly Lys Ala
65 70 75 80
Arg Leu Leu Thr His Trp Glu Gln Met Asp Tyr Gly Val Gln Phe Thr
85 90 95
Ala Ser Arg Lys Phe Leu Thr Ile Thr Pro Ile Val Leu Tyr Phe Leu
100 105 110
Thr Ser Phe Tyr Thr Lys Tyr Asp Gln Ile His Phe Val Leu Asn Thr
115 120 125
Val Ser Leu Met Ser Val Leu Ile Pro Lys Leu Pro Gln Leu His Gly
130 135 140
Val Arg Ile Phe Gly Ile Asn Lys Tyr
145 150
<210> 91

<211> 436

<212> PRT

<213> Homo sapiens

<400> 91
Met Arg Arg Asp Val Asn Gly Val Thr Lys Ser Arg Phe Glu Met Phe
1 5 10 15
Ser Asn Ser Asp Glu Ala Val Ile Asn Lys Lys Leu Pro Lys Glu Leu
20 25 30
Leu Leu Arg Ile Phe Ser Phe Leu Asp Val Val Thr Leu Cys Arg Cys
35 40 45
Ala Gln Val Ser Arg Ala Trp Asn Val Leu Ala Leu Asp Gly Ser Asn
50 55 60
Trp Gln Arg Ile Asp Leu Phe Asp Phe Gln Arg Asp Ile Glu Gly Arg
65 70 75 80
Val Val Glu Asn Ile Ser Lys Arg Cys Gly Gly Phe Leu Arg Lys Leu
85 90 95
Ser Leu Arg Gly Cys Leu Gly Val Gly Asp Asn Ala Leu Arg Thr Phe
100 105 110
Ala Gln Asn Cys Arg Asn Ile Glu Val Leu Asn Leu Asn Gly Cys Thr
115 120 125
Lys Thr Thr Asp Ala Thr Cys Thr Ser Leu Ser Lys Phe Cys Ser Lys
130 135 140
Leu Arg His Leu Asp Leu Ala Ser Cys Thr Ser Ile Thr Asn Met Ser
145 150 155 160
Leu Lys Ala Leu Ser Glu Gly Cys Pro Leu Leu Glu Gln Leu Asn Ile
165 170 175
Ser Trp Cys Asp Gln Val Thr Lys Asp Gly Ile Gln Ala Leu Val Arg
180 185 190
Gly Cys Gly Gly Leu Lys Ala Leu Phe Leu Lys Gly Cys Thr Gln Leu
195 200 205
Glu Asp Glu Ala Leu Lys Tyr Ile Gly Ala His Cys Pro Glu Leu Val
210 215 220
Thr Leu Asn Leu Gln Thr Cys Leu Gln Ile Thr Asp Glu Gly Leu Ile
225 230 235 240

```
Thr Ile Cys Arg Gly Cys His Lys Leu Gln Ser Leu Cys Ala Ser Gly
                245                 250                 255
Cys Ser Asn Ile Thr Asp Ala Ile Leu Asn Ala Leu Gly Gln Asn Cys
            260                 265                 270
Pro Arg Leu Arg Ile Leu Glu Val Ala Arg Cys Ser Gln Leu Thr Asp
        275                 280                 285
Val Gly Phe Thr Thr Leu Ala Arg Asn Cys His Glu Leu Glu Lys Met
    290                 295                 300
Asp Leu Glu Glu Cys Val Gln Ile Thr Asp Ser Thr Leu Ile Gln Leu
305                 310                 315                 320
Ser Ile His Cys Pro Arg Leu Gln Val Leu Ser Leu Ser His Cys Glu
                325                 330                 335
Leu Ile Thr Asp Asp Gly Ile Arg His Leu Gly Asn Gly Ala Cys Ala
            340                 345                 350
His Asp Gln Leu Glu Val Ile Glu Leu Asp Asn Cys Pro Leu Ile Thr
        355                 360                 365
Asp Ala Ser Leu Glu His Leu Lys Ser Cys His Ser Leu Glu Arg Ile
    370                 375                 380
Glu Leu Tyr Asp Cys Gln Gln Ile Thr Arg Ala Gly Ile Lys Arg Leu
385                 390                 395                 400
Arg Thr His Leu Pro Asn Ile Lys Val His Ala Tyr Phe Ala Pro Val
                405                 410                 415
Thr Pro Pro Pro Ser Val Gly Gly Ser Arg Gln Arg Phe Cys Arg Cys
            420                 425                 430
Cys Ile Ile Leu
        435
<210>  92

<211>  204

<212>  PRT

<213>  Homo sapiens


<400>  92
Met Asp Pro Lys Asp Arg Lys Lys Ile Gln Phe Ser Val Pro Ala Pro
1                   5                   10                  15
Pro Ser Gln Leu Asp Pro Arg Gln Val Glu Met Ile Arg Arg Arg Arg
            20                  25                  30
Pro Thr Pro Ala Met Leu Phe Arg Leu Ser Glu His Ser Ser Pro Glu
        35                  40                  45
Glu Glu Ala Ser Pro His Gln Arg Ala Ser Gly Glu Gly His His Leu
    50                  55                  60
Lys Ser Lys Arg Pro Asn Pro Cys Ala Tyr Thr Pro Pro Ser Leu Lys
65                  70                  75                  80
Ala Val Gln Arg Ile Ala Glu Ser His Leu Gln Ser Ile Ser Asn Leu
                85                  90                  95
Asn Glu Asn Gln Ala Ser Glu Glu Glu Asp Glu Leu Gly Glu Leu Arg
            100                 105                 110
Glu Leu Gly Tyr Pro Arg Glu Glu Asp Glu Glu Glu Glu Glu Asp Asp
        115                 120                 125
Glu Glu Glu Glu Glu Glu Glu Asp Ser Gln Ala Glu Val Leu Lys Val
    130                 135                 140
Ile Arg Gln Ser Ala Gly Gln Lys Thr Thr Cys Gly Gln Gly Leu Glu
145                 150                 155                 160
Gly Pro Trp Glu Arg Pro Pro Pro Leu Asp Glu Ser Glu Arg Asp Gly
                165                 170                 175
Gly Ser Glu Asp Gln Val Glu Asp Pro Ala Leu Ser Glu Pro Gly Glu
            180                 185                 190
Glu Pro Gln Arg Pro Ser Pro Ser Glu Pro Gly Thr
        195                 200
<210>  93

<211>  115
```

<212> PRT

<213> Homo sapiens

<400> 93
Met Ser Gly Glu Pro Gly Gln Thr Ser Val Ala Pro Pro Pro Glu Glu
1 5 10 15
Val Glu Pro Gly Ser Gly Val Arg Ile Val Val Glu Tyr Cys Glu Pro
20 25 30
Cys Gly Phe Glu Ala Thr Tyr Leu Glu Leu Ala Ser Ala Val Lys Glu
35 40 45
Gln Tyr Pro Gly Ile Glu Ile Glu Ser Arg Leu Gly Gly Thr Gly Ala
50 55 60
Phe Glu Ile Glu Ile Asn Gly Gln Leu Val Phe Ser Lys Leu Glu Asn
65 70 75 80
Gly Gly Phe Pro Tyr Glu Lys Asp Leu Ile Glu Ala Ile Arg Arg Ala
85 90 95
Ser Asn Gly Glu Thr Leu Glu Lys Ile Thr Asn Ser Arg Pro Pro Cys
100 105 110
Val Ile Leu
115
<210> 94

<211> 144

<212> PRT

<213> Homo sapiens

<400> 94
Met Gly Ala Val Val Leu Cys Arg Pro Ser Pro Leu Asn Phe Leu Ile
1 5 10 15
Gln Thr Gly Thr Gly Gln Gly Leu Ser Cys Gly Ser His Met Trp Arg
20 25 30
Cys Glu Ala Thr Pro Cys Gly Val Cys Gly Glu Ser Pro Val Gly Ser
35 40 45
Leu Leu Lys Gln His Arg Gly Arg Gly Lys Thr Trp Pro Val Gly Thr
50 55 60
Val Ser Ala Cys Arg Glu Glu Ser Glu Ala Gly Ser Leu Ser Leu Gly
65 70 75 80
Trp Ser Leu Leu Pro Ser Pro Val Gly Leu Gly Ala Val Leu Ile Leu
85 90 95
Lys Arg Cys Gly Ser Leu Cys Pro Leu Pro Gly Val Gln Gly Asn Arg
100 105 110
Arg Gly His Trp Ala Cys Phe Leu Pro Pro Asp Pro Ala Ser Pro Thr
115 120 125
Pro Cys Ile Ile Gly Asn Phe His Leu Lys Ile Phe Leu Ser Lys Val
130 135 140
<210> 95

<211> 425

<212> PRT

<213> Homo sapiens

<400> 95
Met Gly Gly Gly Asp Leu Asn Leu Lys Lys Ser Trp His Pro Gln Thr
1 5 10 15

Leu Arg Asn Val Glu Lys Val Trp Lys Ala Glu Gln Lys His Glu Ala
20 25 30
Glu Arg Lys Lys Ile Glu Glu Leu Gln Arg Glu Leu Arg Glu Glu Arg
35 40 45
Ala Arg Glu Glu Met Gln Arg Tyr Ala Glu Asp Val Gly Ala Val Lys
50 55 60
Lys Lys Glu Glu Lys Leu Asp Trp Met Tyr Gln Gly Pro Gly Gly Met
65 70 75 80
Val Asn Arg Asp Glu Tyr Leu Leu Gly Arg Pro Ile Asp Lys Tyr Val
85 90 95
Phe Glu Lys Met Glu Glu Lys Glu Ala Gly Cys Ser Ser Glu Thr Gly
100 105 110
Leu Leu Pro Gly Ser Ile Phe Ala Pro Ser Gly Ala Asn Ser Leu Leu
115 120 125
Asp Met Ala Ser Lys Ile Arg Glu Asp Pro Leu Phe Ile Ile Arg Lys
130 135 140
Lys Glu Glu Glu Lys Lys Arg Glu Val Leu Asn Asn Pro Val Lys Met
145 150 155 160
Lys Lys Ile Lys Glu Leu Leu Gln Met Ser Leu Glu Lys Lys Glu Lys
165 170 175
Lys Lys Lys Lys Glu Lys Lys Lys Lys His Lys Lys His Lys His Arg
180 185 190
Ser Ser Ser Ser Asp Arg Ser Ser Ser Glu Asp Glu His Ser Ala Gly
195 200 205
Arg Ser Gln Lys Lys Met Ala Asn Ser Ser Pro Val Leu Ser Lys Val
210 215 220
Pro Gly Tyr Gly Leu Gln Val Arg Asn Ser Asp Arg Asn Gln Gly Leu
225 230 235 240
Gln Gly Pro Leu Thr Ala Glu Gln Lys Arg Gly His Gly Met Lys Asn
245 250 255
His Ser Arg Ser Arg Ser Ser Ser His Ser Pro Pro Arg His Ala Ser
260 265 270
Lys Lys Ser Thr Arg Glu Ala Gly Ser Arg Asp Arg Arg Ser Arg Ser
275 280 285
Leu Gly Arg Arg Ser Arg Ser Pro Arg Pro Ser Lys Leu His Asn Ser
290 295 300
Lys Val Asn Arg Arg Glu Thr Gly Gln Thr Arg Ser Pro Ser Pro Lys
305 310 315 320
Lys Glu Val Tyr Gln Arg Arg His Ala Pro Gly Tyr Thr Arg Lys Leu
325 330 335
Ser Ala Glu Glu Leu Glu Arg Lys Arg Gln Glu Met Met Glu Asn Ala
340 345 350
Lys Trp Arg Glu Glu Glu Arg Leu Asn Ile Leu Lys Arg His Ala Lys
355 360 365
Asp Glu Glu Arg Glu Gln Arg Leu Glu Lys Leu Asp Ser Arg Asp Gly
370 375 380
Lys Phe Ile His Arg Met Lys Leu Glu Ser Ala Ser Thr Ser Ser Leu
385 390 395 400
Glu Asp Arg Val Lys Arg Asn Ile Tyr Ser Leu Gln Arg Thr Ser Val
405 410 415
Ala Leu Glu Lys Asn Phe Met Lys Arg
420 425

<210> 96

<211> 394

<212> PRT

<213> Homo sapiens

<400> 96
Met Phe Ser Val Phe Glu Glu Ile Thr Arg Ile Val Val Lys Glu Met
1 5 10 15

```
Asp Ala Gly Gly Asp Met Ile Ala Val Arg Ser Leu Val Asp Ala Asp
            20                  25                  30
Arg Phe Arg Cys Phe His Leu Val Gly Glu Lys Arg Thr Phe Phe Gly
        35                  40                  45
Cys Arg His Tyr Thr Thr Gly Leu Thr Leu Met Asp Ile Leu Asp Thr
    50                  55                  60
His Gly Asp Lys Trp Leu Asp Glu Leu Asp Ser Gly Leu Gln Gly Gln
65                  70                  75                  80
Lys Ala Glu Phe Gln Ile Leu Asp Asn Val Asp Ser Thr Gly Glu Leu
                85                  90                  95
Ile Val Arg Leu Pro Lys Glu Ile Thr Ile Ser Gly Ser Phe Gln Gly
            100                 105                 110
Phe His His Gln Lys Ile Lys Ile Ser Glu Asn Arg Ile Ser Gln Gln
        115                 120                 125
Tyr Leu Ala Thr Leu Glu Asn Arg Lys Leu Lys Arg Glu Leu Pro Phe
    130                 135                 140
Ser Phe Arg Ser Ile Asn Thr Arg Glu Asn Leu Tyr Leu Val Thr Glu
145                 150                 155                 160
Thr Leu Glu Thr Val Lys Glu Glu Thr Leu Lys Ser Asp Arg Gln Tyr
                165                 170                 175
Lys Phe Trp Ser Gln Ile Ser Gln Gly His Leu Ser Tyr Lys His Lys
            180                 185                 190
Gly Gln Arg Glu Val Thr Ile Pro Pro Asn Arg Val Leu Ser Tyr Arg
        195                 200                 205
Val Lys Gln Leu Val Phe Pro Asn Lys Glu Thr Met Arg Lys Ser Leu
    210                 215                 220
Gly Ser Glu Asp Ser Arg Asn Met Lys Glu Lys Leu Glu Asp Met Glu
225                 230                 235                 240
Ser Val Leu Lys Asp Leu Thr Glu Glu Lys Arg Lys Asp Val Leu Asn
                245                 250                 255
Ser Leu Ala Lys Cys Leu Gly Lys Glu Asp Ile Arg Gln Asp Leu Glu
            260                 265                 270
Gln Arg Val Ser Glu Val Leu Ile Ser Gly Glu Leu His Met Glu Asp
        275                 280                 285
Pro Asp Lys Pro Leu Leu Ser Ser Leu Phe Asn Ala Ala Gly Val Leu
    290                 295                 300
Val Glu Ala Arg Ala Lys Ala Ile Leu Asp Phe Leu Asp Ala Leu Leu
305                 310                 315                 320
Glu Leu Ser Glu Glu Gln Gln Phe Val Ala Glu Ala Leu Glu Lys Gly
                325                 330                 335
Thr Leu Pro Leu Leu Lys Asp Gln Val Lys Ser Val Met Glu Gln Asn
            340                 345                 350
Trp Asp Glu Leu Ala Ser Ser Pro Pro Asp Met Asp Tyr Asp Pro Glu
        355                 360                 365
Ala Arg Ile Leu Cys Ala Leu Tyr Val Val Val Ser Ile Leu Leu Glu
    370                 375                 380
Leu Ala Glu Gly Pro Thr Ser Val Ser Ser
385                 390
<210>  97

<211>  456

<212>  PRT

<213>  Homo sapiens


<400>  97
Met Glu Gly Pro Glu Gly Leu Gly Arg Lys Gln Ala Cys Leu Ala Met
1               5                   10                  15
Leu Leu His Phe Leu Asp Thr Tyr Gln Gly Leu Leu Gln Glu Glu Glu
            20                  25                  30
Gly Ala Gly His Ile Ile Lys Asp Leu Tyr Leu Leu Ile Met Lys Asp
        35                  40                  45
```

```
Glu Ser Leu Tyr Gln Gly Leu Arg Glu Asp Thr Leu Arg Leu His Gln
    50                  55                  60
Leu Val Glu Thr Val Glu Leu Lys Ile Pro Glu Glu Asn Gln Pro Pro
65                  70                  75                  80
Ser Lys Gln Val Lys Pro Leu Phe Arg His Phe Arg Arg Ile Asp Ser
                85                  90                  95
Cys Leu Gln Thr Arg Val Ala Phe Arg Gly Ser Asp Glu Ile Phe Cys
            100                 105                 110
Arg Val Tyr Met Pro Asp His Ser Tyr Val Thr Ile Arg Ser Arg Leu
        115                 120                 125
Ser Ala Ser Val Gln Asp Ile Leu Gly Ser Val Thr Glu Lys Leu Gln
    130                 135                 140
Tyr Ser Glu Glu Pro Ala Gly Arg Glu Asp Ser Leu Ile Leu Val Ala
145                 150                 155                 160
Val Ser Ser Ser Gly Glu Lys Val Leu Leu Gln Pro Thr Glu Asp Cys
                165                 170                 175
Val Phe Thr Ala Leu Gly Ile Asn Ser His Leu Phe Ala Cys Thr Arg
            180                 185                 190
Asp Ser Tyr Glu Ala Leu Val Pro Leu Pro Glu Glu Ile Gln Val Ser
        195                 200                 205
Pro Gly Asp Thr Glu Ile His Arg Val Glu Pro Glu Asp Val Ala Asn
    210                 215                 220
His Leu Thr Ala Phe His Trp Glu Leu Phe Arg Cys Val His Glu Leu
225                 230                 235                 240
Glu Phe Val Asp Tyr Val Phe His Gly Glu Arg Gly Arg Arg Glu Thr
                245                 250                 255
Ala Asn Leu Glu Leu Leu Leu Gln Arg Cys Ser Glu Val Thr His Trp
            260                 265                 270
Val Ala Thr Glu Val Leu Leu Cys Glu Ala Pro Gly Lys Arg Ala Gln
        275                 280                 285
Leu Leu Lys Lys Phe Ile Lys Ile Ala Ala Leu Cys Lys Gln Asn Gln
    290                 295                 300
Asp Leu Leu Ser Phe Tyr Ala Val Val Met Gly Leu Asp Asn Ala Ala
305                 310                 315                 320
Val Ser Arg Leu Arg Leu Thr Trp Glu Lys Leu Pro Gly Lys Phe Lys
                325                 330                 335
Asn Leu Phe Arg Lys Phe Glu Asn Leu Thr Asp Pro Cys Arg Asn His
            340                 345                 350
Lys Ser Tyr Arg Glu Val Ile Ser Lys Met Lys Pro Pro Val Ile Pro
        355                 360                 365
Phe Val Pro Leu Ile Leu Lys Asp Leu Thr Phe Leu His Glu Gly Ser
    370                 375                 380
Lys Thr Leu Val Asp Gly Leu Val Asn Ile Glu Lys Leu His Ser Val
385                 390                 395                 400
Ala Glu Lys Val Arg Thr Ile Arg Lys Tyr Arg Ser Arg Pro Leu Cys
                405                 410                 415
Leu Asp Met Glu Ala Ser Pro Asn His Leu Gln Thr Lys Ala Tyr Val
            420                 425                 430
Arg Gln Phe Gln Val Ile Asp Asn Gln Asn Leu Leu Phe Glu Leu Ser
        435                 440                 445
Tyr Lys Leu Glu Ala Asn Ser Gln
    450                 455
<210>  98

<211>  715

<212>  PRT

<213>  Homo sapiens


<400>  98
Met Ser Gln Val Met Ser Ser Pro Leu Leu Ala Gly Gly His Ala Val
1               5                   10                  15
```

```
Ser Leu Ala Pro Cys Asp Glu Pro Arg Arg Thr Leu His Pro Ala Pro
                20                  25                  30
Ser Pro Ser Leu Pro Pro Gln Cys Ser Tyr Tyr Thr Thr Glu Gly Trp
            35                  40                  45
Gly Ala Gln Ala Leu Met Ala Pro Val Pro Cys Met Gly Pro Pro Gly
        50                  55                  60
Arg Leu Gln Gln Ala Pro Gln Val Glu Ala Lys Ala Thr Cys Phe Leu
65                  70                  75                  80
Pro Ser Pro Gly Glu Lys Ala Leu Gly Thr Pro Glu Asp Leu Asp Ser
                85                  90                  95
Tyr Ile Asp Phe Ser Leu Glu Ser Leu Asn Gln Met Ile Leu Glu Leu
            100                 105                 110
Asp Pro Thr Phe Gln Leu Leu Pro Pro Gly Thr Gly Gly Ser Gln Ala
        115                 120                 125
Glu Leu Ala Gln Ser Thr Met Ser Met Arg Lys Lys Glu Glu Ser Glu
    130                 135                 140
Ala Leu Asp Ile Lys Tyr Ile Glu Val Thr Ser Ala Arg Ser Arg Cys
145                 150                 155                 160
His Asp Trp Pro Gln His Cys Ser Ser Pro Ser Val Thr Pro Pro Phe
                165                 170                 175
Gly Ser Pro Arg Ser Gly Gly Leu Leu Leu Ser Arg Asp Val Pro Arg
            180                 185                 190
Glu Thr Arg Ser Ser Ser Glu Ser Leu Ile Phe Ser Gly Asn Gln Gly
        195                 200                 205
Arg Gly His Gln Arg Pro Leu Pro Pro Ser Glu Gly Leu Ser Pro Arg
    210                 215                 220
Pro Pro Asn Ser Pro Ser Ile Ser Ile Pro Cys Met Gly Ser Lys Ala
225                 230                 235                 240
Ser Ser Pro His Gly Leu Gly Ser Pro Leu Val Ala Ser Pro Arg Leu
                245                 250                 255
Glu Lys Arg Leu Gly Gly Leu Ala Pro Gln Arg Gly Ser Arg Ile Ser
            260                 265                 270
Val Leu Ser Ala Ser Pro Val Ser Asp Val Ser Tyr Met Phe Gly Ser
        275                 280                 285
Ser Gln Ser Leu Leu His Ser Ser Asn Ser Ser His Gln Ser Ser Ser
    290                 295                 300
Arg Ser Leu Glu Ser Pro Ala Asn Ser Ser Ser Ser Leu His Ser Leu
305                 310                 315                 320
Gly Ser Val Ser Leu Cys Thr Arg Pro Ser Asp Phe Gln Ala Pro Arg
                325                 330                 335
Asn Pro Thr Leu Thr Met Gly Gln Pro Arg Thr Pro His Ser Pro Pro
            340                 345                 350
Leu Ala Lys Glu His Ala Ser Ile Cys Pro Pro Ser Ile Thr Asn Ser
        355                 360                 365
Met Val Asp Ile Pro Ile Val Leu Ile Asn Gly Cys Pro Glu Pro Gly
    370                 375                 380
Ser Ser Pro Pro Gln Arg Thr Pro Gly His Gln Asn Ser Val Gln Pro
385                 390                 395                 400
Gly Ala Ala Ser Pro Ser Asn Pro Cys Pro Ala Thr Arg Ser Asn Ser
                405                 410                 415
Gln Thr Leu Ser Asp Ala Pro Phe Thr Thr Cys Pro Glu Gly Pro Ala
            420                 425                 430
Arg Asp Met Gln Pro Thr Met Lys Phe Val Met Asp Thr Ser Lys Tyr
        435                 440                 445
Trp Phe Lys Pro Asn Ile Thr Arg Glu Gln Ala Ile Glu Leu Leu Arg
    450                 455                 460
Lys Glu Glu Pro Gly Ala Phe Val Ile Arg Asp Ser Ser Ser Tyr Arg
465                 470                 475                 480
Gly Ser Phe Gly Leu Ala Leu Lys Val Gln Glu Val Pro Ala Ser Ala
                485                 490                 495
Gln Asn Arg Pro Gly Glu Asp Ser Asn Asp Leu Ile Arg His Phe Leu
            500                 505                 510
Ile Glu Ser Ser Ala Lys Gly Val His Leu Lys Gly Ala Asp Glu Glu
        515                 520                 525
Pro Tyr Phe Gly Ser Leu Ser Ala Phe Val Cys Gln His Ser Ile Met
    530                 535                 540
```

Ala Leu Ala Leu Pro Cys Lys Leu Thr Ile Pro Gln Arg Glu Leu Gly
545 550 555 560
Gly Ala Asp Gly Ala Ser Asp Ser Thr Asp Ser Pro Ala Ser Cys Gln
565 570 575
Lys Lys Ser Ala Gly Cys His Thr Leu Tyr Leu Ser Ser Val Ser Val
580 585 590
Glu Thr Leu Thr Gly Ala Leu Ala Val Gln Lys Ala Ile Ser Thr Thr
595 600 605
Phe Glu Arg Asp Ile Leu Pro Thr Pro Thr Val Val His Phe Glu Val
610 615 620
Thr Glu Gln Gly Ile Thr Leu Thr Asp Val Gln Arg Lys Val Phe Phe
625 630 635 640
Arg Arg His Tyr Pro Leu Thr Thr Leu Arg Phe Cys Gly Met Asp Pro
645 650 655
Glu Gln Arg Lys Trp Gln Lys Tyr Cys Lys Pro Ser Trp Ile Phe Gly
660 665 670
Phe Val Ala Lys Ser Gln Thr Glu Pro Gln Glu Asn Val Cys His Leu
675 680 685
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<213> Homo sapiens

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<211> 754

<212> DNA

<213> Homo sapiens

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<211> 749

<212> DNA

<213> Homo sapiens

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<210> 323

<211> 440

<212> DNA

<213> Homo sapiens

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<210> 324

<211> 614

<212> DNA

<213> Homo sapiens

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<210> 325

<211> 1193

<212> DNA

<213> Homo sapiens

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<211> 986

<212> DNA

<213> Homo sapiens

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<211> 903

<212> DNA

<213> Homo sapiens

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<212> DNA

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<212> DNA

<213> Homo sapiens

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<211> 601

<212> DNA

<213> Homo sapiens

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<212> DNA

<213> Homo sapiens

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<213> Homo sapiens

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<211> 924

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<212> DNA

<213> Homo sapiens

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<211> 782

<212> DNA

<213> Homo sapiens

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<210> 338

<211> 754

<212> DNA

<213> Homo sapiens

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<211> 1042

<212> DNA

<213> Homo sapiens

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<210> 340

<211> 1020

<212> DNA

<213> Homo sapiens

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<211> 1007

<212> DNA

<213> Homo sapiens

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<211> 953

<212> DNA

<213> Homo sapiens

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<211> 990

<212> DNA

<213> Homo sapiens

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<211> 725

<212> DNA

<213> Homo sapiens

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<211> 1252

<212> DNA

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<211> 1621

<212> DNA

<213> Homo sapiens

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<212> DNA

<213> Homo sapiens

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<211> 2323

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<213> Homo sapiens

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<213> Homo sapiens

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<210> 391

<211> 3291

<212> DNA

<213> Homo sapiens

<400> 391
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cagaactggc aggaagctgc acttgggagt gatgattcca aggctaccat gctattcttc 240
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gctcagaggg cccaattgga acaaggagag ccagttctcg aaacacctgt ggagagccag 480
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tccatcagcc aactgaaaga ccagcaggat gtcttctgct tccgatataa gatccaggcc 600
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<210> 392

<211> 1283

<212> DNA

<213> Homo sapiens

<400> 392
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cgcctggtca ccagggctgc ttttaactct ggtaaagtgg atattgttgc catcaatgac 180
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<210> 393

<211> 331

<212> PRT

<213> Homo sapiens

<400> 393
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Leu Thr Arg Thr Gln Ser Ala Phe Ser Pro Val Ser Phe Ser Pro Leu
20 25 30
Phe Thr Gly Glu Thr Val Ser Leu Val Asp Val Asp Ile Ser Gln Arg
35 40 45

```
Gly Leu Thr Ser Pro His Pro Pro Thr Pro Pro Pro Pro Pro Arg Arg
    50                  55                  60
Ser Leu Ser Leu Leu Asp Asp Ile Ser Gly Thr Leu Pro Thr Ser Val
65                  70                  75                  80
Leu Val Ala Pro Met Gly Ser Ser Leu Gln Ser Phe Pro Leu Pro Pro
                85                  90                  95
Pro Pro Pro Pro His Ala Pro Asp Ala Phe Pro Arg Ile Ala Pro Ile
            100                 105                 110
Arg Ala Ala Glu Ser Leu His Ser Gln Pro Pro Gln His Leu Gln Cys
        115                 120                 125
Pro Leu Tyr Arg Pro Asp Ser Ser Ser Phe Ala Ala Ser Leu Arg Glu
    130                 135                 140
Leu Glu Lys Cys Gly Trp Tyr Trp Gly Pro Met Asn Trp Glu Asp Ala
145                 150                 155                 160
Glu Met Lys Leu Lys Gly Lys Pro Asp Gly Ser Phe Leu Val Arg Asp
                165                 170                 175
Ser Ser Asp Pro Arg Tyr Ile Leu Ser Leu Ser Phe Arg Ser Gln Gly
            180                 185                 190
Ile Thr His His Thr Arg Met Glu His Tyr Arg Gly Thr Phe Ser Leu
        195                 200                 205
Trp Cys His Pro Lys Phe Glu Asp Arg Cys Gln Ser Val Val Glu Phe
    210                 215                 220
Ile Lys Arg Ala Ile Met His Ser Lys Asn Gly Lys Phe Leu Tyr Phe
225                 230                 235                 240
Leu Arg Ser Arg Val Pro Gly Leu Pro Pro Thr Pro Val Gln Leu Leu
                245                 250                 255
Tyr Pro Val Ser Arg Phe Ser Asn Val Lys Ser Leu Gln His Leu Cys
            260                 265                 270
Arg Phe Arg Ile Arg Gln Leu Val Arg Ile Asp His Ile Pro Asp Leu
        275                 280                 285
Pro Leu Pro Lys Pro Leu Ile Ser Tyr Ile Arg Lys Phe Tyr Tyr Tyr
    290                 295                 300
Asp Pro Gln Glu Glu Val Tyr Leu Ser Leu Lys Glu Ala Gln Leu Ile
305                 310                 315                 320
Ser Lys Gln Lys Gln Glu Val Glu Pro Ser Thr
                325                 330
```

<210> 394

<211> 306

<212> PRT

<213> Homo sapiens

<400> 394

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Met Ala Ala Pro Ile Pro Gln Gly Phe Ser Cys Leu Ser Arg Val Leu
1               5                   10                  15
Gly Trp Trp Ser Arg Gln Pro Val Leu Val Thr Gln Ser Ala Ala Ile
            20                  25                  30
Val Pro Val Arg Thr Lys Lys Arg Phe Thr Pro Pro Ile Tyr Gln Pro
        35                  40                  45
Lys Phe Lys Thr Glu Lys Glu Phe Met Gln His Ala Arg Lys Ala Gly
    50                  55                  60
Leu Val Ile Pro Pro Glu Lys Ser Asp Arg Ser Ile His Leu Ala Cys
65                  70                  75                  80
Thr Ala Gly Ile Phe Asp Ala Tyr Val Pro Pro Glu Gly Asp Ala Arg
                85                  90                  95
Ile Ser Ser Leu Ser Lys Glu Gly Leu Ile Glu Arg Thr Glu Arg Met
            100                 105                 110
Lys Lys Thr Met Ala Ser Gln Val Ser Ile Arg Arg Ile Lys Asp Tyr
        115                 120                 125
Asp Ala Asn Phe Lys Ile Lys Asp Phe Pro Glu Lys Ala Lys Asp Ile
    130                 135                 140
```

```
Phe Ile Glu Ala His Leu Cys Leu Asn Asn Ser Asp His Asp Arg Leu
145                 150                 155                 160
His Thr Leu Val Thr Glu His Cys Phe Pro Asp Met Thr Trp Asp Ile
                165                 170                 175
Lys Tyr Lys Thr Val Arg Trp Ser Phe Val Glu Ser Leu Glu Pro Ser
            180                 185                 190
His Val Val Gln Val Arg Cys Ser Ser Met Met Asn Gln Gly Asn Val
        195                 200                 205
Tyr Gly Gln Ile Thr Val Arg Met His Thr Arg Gln Thr Leu Ala Ile
    210                 215                 220
Tyr Asp Arg Phe Gly Arg Leu Met Tyr Gly Gln Glu Asp Val Pro Lys
225                 230                 235                 240
Asp Val Leu Glu Tyr Val Val Phe Glu Lys Gln Leu Thr Asn Pro Tyr
                245                 250                 255
Gly Ser Trp Arg Met His Thr Lys Ile Val Pro Pro Trp Ala Pro Pro
            260                 265                 270
Lys Gln Pro Ile Leu Lys Thr Val Met Ile Pro Gly Pro Gln Leu Lys
        275                 280                 285
Pro Glu Glu Glu Tyr Glu Glu Ala Gln Gly Glu Ala Gln Lys Pro Gln
    290                 295                 300
Leu Ala
305
<210>  395

<211>  557

<212>  PRT

<213>  Homo sapiens


<400>  395
Met Val Ser Lys Leu Thr Ser Leu Gln Gln Glu Leu Leu Ser Ala Leu
1                   5                  10                  15
Leu Ser Ser Gly Val Thr Lys Glu Val Leu Val Gln Ala Leu Glu Glu
            20                  25                  30
Leu Leu Pro Ser Pro Asn Phe Gly Val Lys Leu Glu Thr Leu Pro Leu
        35                  40                  45
Ser Pro Gly Ser Gly Ala Glu Pro Asp Thr Lys Pro Val Phe His Thr
    50                  55                  60
Leu Thr Asn Gly His Ala Lys Gly Arg Leu Ser Gly Asp Glu Gly Ser
65                  70                  75                  80
Glu Asp Gly Asp Asp Tyr Asp Thr Pro Pro Ile Leu Lys Glu Leu Gln
                85                  90                  95
Ala Leu Asn Thr Glu Glu Ala Ala Glu Gln Arg Ala Glu Val Asp Arg
            100                 105                 110
Met Leu Ser Glu Asp Pro Trp Arg Ala Ala Lys Met Ile Lys Gly Tyr
        115                 120                 125
Met Gln Gln His Asn Ile Pro Gln Arg Glu Val Val Asp Val Thr Gly
    130                 135                 140
Leu Asn Gln Ser His Leu Ser Gln His Leu Asn Lys Gly Thr Pro Met
145                 150                 155                 160
Lys Thr Gln Lys Arg Ala Ala Leu Tyr Thr Trp Tyr Val Arg Lys Gln
                165                 170                 175
Arg Glu Ile Leu Arg Gln Phe Asn Gln Thr Val Gln Ser Ser Gly Asn
            180                 185                 190
Met Thr Asp Lys Ser Ser Gln Asp Gln Leu Leu Phe Leu Phe Pro Glu
        195                 200                 205
Phe Ser Gln Gln Ser His Gly Pro Gly Gln Ser Asp Asp Ala Cys Ser
    210                 215                 220
Glu Pro Thr Asn Lys Lys Met Arg Arg Asn Arg Phe Lys Trp Gly Pro
225                 230                 235                 240
Ala Ser Gln Gln Ile Leu Tyr Gln Ala Tyr Asp Arg Gln Lys Asn Pro
                245                 250                 255
```

```
Ser Lys Glu Glu Arg Glu Ala Leu Val Glu Glu Cys Asn Arg Ala Glu
            260                 265                 270
Cys Leu Gln Arg Gly Val Ser Pro Ser Lys Ala His Gly Leu Gly Ser
        275                 280                 285
Asn Leu Val Thr Glu Val Arg Val Tyr Asn Trp Phe Ala Asn Arg Arg
    290                 295                 300
Lys Glu Glu Ala Phe Arg Gln Lys Leu Ala Met Asp Ala Tyr Ser Ser
305                 310                 315                 320
Asn Gln Thr His Ser Leu Asn Pro Leu Leu Ser His Gly Ser Pro His
                325                 330                 335
His Gln Pro Ser Ser Ser Pro Pro Asn Lys Leu Ser Gly Val Arg Tyr
            340                 345                 350
Ser Gln Gln Gly Asn Asn Glu Ile Thr Ser Ser Ser Thr Ile Ser His
        355                 360                 365
His Gly Asn Ser Ala Met Val Thr Ser Gln Ser Val Leu Gln Gln Val
    370                 375                 380
Ser Pro Ala Ser Leu Asp Pro Gly His Asn Leu Leu Ser Pro Asp Gly
385                 390                 395                 400
Lys Met Ile Ser Val Ser Gly Gly Gly Leu Pro Pro Val Ser Thr Leu
                405                 410                 415
Thr Asn Ile His Ser Leu Ser His His Asn Pro Gln Gln Ser Gln Asn
            420                 425                 430
Leu Ile Met Thr Pro Leu Ser Gly Val Met Ala Ile Ala Gln Ser Leu
        435                 440                 445
Asn Thr Ser Gln Ala Gln Ser Val Pro Val Ile Asn Ser Val Ala Gly
    450                 455                 460
Ser Leu Ala Ala Leu Gln Pro Val Gln Phe Ser Gln Gln Leu His Ser
465                 470                 475                 480
Pro His Gln Gln Pro Leu Met Gln Gln Ser Pro Gly Ser His Met Ala
                485                 490                 495
Gln Gln Pro Phe Met Ala Ala Val Thr Gln Leu Gln Asn Ser His Met
            500                 505                 510
Tyr Ala His Lys Gln Glu Pro Pro Gln Tyr Ser His Thr Ser Arg Phe
        515                 520                 525
Pro Ser Ala Met Val Val Thr Asp Thr Ser Ser Ile Ser Thr Leu Thr
    530                 535                 540
Asn Met Ser Ser Ser Lys Gln Cys Pro Leu Gln Ala Trp
545                 550                 555
<210>  396

<211>  491

<212>  PRT

<213>  Homo sapiens


<400>  396
Met Ser Ser Val Glu Ala Lys Ile Glu Asp Lys Lys Val Gln Arg Glu
1                   5                  10                  15
Ser Lys Leu Thr Ser Gly Lys Leu Glu Asn Leu Arg Lys Glu Lys Ile
            20                  25                  30
Asn Phe Leu Arg Asn Lys His Lys Ile His Val Gln Gly Thr Asp Leu
        35                  40                  45
Pro Asp Pro Ile Ala Thr Phe Gln Gln Leu Asp Gln Glu Tyr Lys Ile
    50                  55                  60
Asn Ser Arg Leu Leu Gln Asn Ile Leu Asp Ala Gly Phe Gln Met Pro
65                  70                  75                  80
Thr Pro Ile Gln Met Gln Ala Ile Pro Val Met Leu His Gly Arg Glu
                85                  90                  95
Leu Leu Ala Ser Ala Pro Thr Gly Ser Gly Lys Thr Leu Ala Phe Ser
            100                 105                 110
Ile Pro Ile Leu Met Gln Leu Lys Gln Pro Ala Asn Lys Gly Phe Arg
        115                 120                 125
```

```
Ala Leu Ile Ile Ser Pro Thr Arg Glu Leu Ala Ser Gln Ile His Arg
    130                 135                 140
Glu Leu Ile Lys Ile Ser Glu Gly Thr Gly Phe Arg Ile His Met Ile
145                 150                 155                 160
His Lys Ala Ala Val Ala Ala Lys Lys Phe Gly Pro Lys Ser Ser Lys
                165                 170                 175
Lys Phe Asp Ile Leu Val Thr Thr Pro Asn Arg Leu Ile Tyr Leu Leu
            180                 185                 190
Lys Gln Asp Pro Pro Gly Ile Asp Leu Ala Ser Val Glu Trp Leu Val
        195                 200                 205
Val Asp Glu Ser Asp Lys Leu Phe Glu Asp Gly Lys Thr Gly Phe Arg
    210                 215                 220
Asp Gln Leu Ala Ser Ile Phe Leu Ala Cys Thr Ser His Lys Val Arg
225                 230                 235                 240
Arg Ala Met Phe Ser Ala Thr Phe Ala Tyr Asp Val Glu Gln Trp Cys
                245                 250                 255
Lys Leu Asn Leu Asp Asn Val Ile Ser Val Ser Ile Gly Ala Arg Asn
            260                 265                 270
Ser Ala Val Glu Thr Val Glu Gln Glu Leu Leu Phe Val Gly Ser Glu
        275                 280                 285
Thr Gly Lys Leu Leu Ala Val Arg Glu Leu Val Lys Lys Gly Phe Asn
    290                 295                 300
Pro Pro Val Leu Val Phe Val Gln Ser Ile Glu Arg Ala Lys Glu Leu
305                 310                 315                 320
Phe His Glu Leu Ile Tyr Glu Gly Ile Asn Val Asp Val Ile His Ala
                325                 330                 335
Glu Arg Thr Gln Gln Gln Arg Asp Asn Thr Val His Ser Phe Arg Ala
            340                 345                 350
Gly Lys Ile Trp Val Leu Ile Cys Thr Ala Leu Leu Ala Arg Gly Ile
        355                 360                 365
Asp Phe Lys Gly Val Asn Leu Val Ile Asn Tyr Asp Phe Pro Thr Ser
    370                 375                 380
Ser Val Glu Tyr Ile His Arg Ile Gly Arg Thr Gly Arg Ala Gly Asn
385                 390                 395                 400
Lys Gly Lys Ala Ile Thr Phe Phe Thr Glu Asp Asp Lys Pro Leu Leu
                405                 410                 415
Arg Ser Val Ala Asn Val Ile Gln Gln Ala Gly Cys Pro Val Pro Glu
            420                 425                 430
Tyr Ile Lys Gly Phe Gln Lys Leu Leu Ser Lys Gln Lys Lys Lys Met
        435                 440                 445
Ile Lys Lys Pro Leu Glu Arg Glu Ser Ile Ser Thr Thr Pro Lys Cys
    450                 455                 460
Phe Leu Glu Lys Ala Lys Asp Lys Gln Arg Lys Val Thr Gly Gln Asn
465                 470                 475                 480
Ser Lys Lys Lys Val Ala Leu Glu Asp Lys Ser
                485                 490
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<210> 397

<211> 424

<212> PRT

<213> Homo sapiens

<400> 397

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Met Asp Phe Ser Arg Arg Ser Phe His Arg Ser Leu Ser Ser Ser Leu
1               5                   10                  15
Gln Ala Pro Val Val Ser Thr Val Gly Met Gln Arg Leu Gly Thr Thr
            20                  25                  30
Pro Ser Val Tyr Gly Gly Ala Gly Gly Arg Gly Ile Arg Ile Ser Asn
        35                  40                  45
Ser Arg His Thr Val Asn Tyr Gly Ser Asp Leu Thr Gly Gly Gly Asp
    50                  55                  60
```

```
Leu Phe Val Gly Asn Glu Lys Met Ala Met Gln Asn Leu Asn Asp Arg
65                  70                  75                  80
Leu Ala Ser Tyr Leu Glu Lys Val Arg Thr Leu Glu Gln Ser Asn Ser
                85                  90                  95
Lys Leu Glu Val Gln Ile Lys Gln Trp Tyr Glu Thr Asn Ala Pro Arg
            100                 105                 110
Ala Gly Arg Asp Tyr Ser Ala Tyr Tyr Arg Gln Ile Glu Glu Leu Arg
        115                 120                 125
Ser Gln Ile Lys Asp Ala Gln Leu Gln Asn Ala Arg Cys Val Leu Gln
    130                 135                 140
Ile Asp Asn Ala Lys Leu Ala Ala Glu Asp Phe Arg Leu Lys Tyr Glu
145                 150                 155                 160
Thr Glu Arg Gly Ile Arg Leu Thr Val Glu Ala Asp Leu Gln Gly Leu
                165                 170                 175
Asn Lys Val Phe Asp Asp Leu Thr Leu His Lys Thr Asp Leu Glu Ile
            180                 185                 190
Gln Ile Glu Glu Leu Asn Lys Asp Leu Ala Leu Leu Lys Lys Glu His
        195                 200                 205
Gln Glu Glu Val Asp Gly Leu His Lys His Leu Gly Asn Thr Val Asn
    210                 215                 220
Val Glu Val Asp Ala Ala Pro Gly Leu Asn Leu Gly Val Ile Met Asn
225                 230                 235                 240
Glu Met Arg Gln Lys Tyr Glu Val Met Ala Gln Lys Asn Leu Gln Glu
                245                 250                 255
Ala Lys Glu Gln Phe Glu Arg Gln Thr Ala Val Leu Gln Gln Gln Val
            260                 265                 270
Thr Val Asn Thr Glu Glu Leu Lys Gly Thr Glu Val Gln Leu Thr Glu
        275                 280                 285
Leu Arg Arg Thr Ser Gln Ser Leu Glu Ile Glu Leu Gln Ser His Leu
    290                 295                 300
Ser Met Lys Glu Ser Leu Glu His Thr Leu Glu Glu Thr Lys Ala Arg
305                 310                 315                 320
Tyr Ser Ser Gln Leu Ala Asn Leu Gln Ser Leu Leu Ser Ser Leu Glu
                325                 330                 335
Ala Gln Leu Met Gln Ile Arg Ser Asn Met Glu Arg Gln Asn Asn Glu
            340                 345                 350
Tyr His Ile Leu Leu Asp Ile Lys Thr Arg Leu Glu Gln Glu Ile Ala
        355                 360                 365
Thr Tyr Arg Arg Leu Leu Glu Gly Glu Asp Val Lys Thr Thr Glu Tyr
    370                 375                 380
Gln Leu Ser Thr Leu Glu Glu Arg Asp Ile Lys Lys Thr Arg Lys Ile
385                 390                 395                 400
Lys Thr Val Val Gln Glu Val Val Asp Gly Lys Val Val Ser Ser Glu
                405                 410                 415
Val Lys Glu Val Glu Glu Asn Ile
            420
```

<210> 398

<211> 209

<212> PRT

<213> Homo sapiens

<400> 398

```
Met Glu Lys His His Val Pro Ser Asp Phe Asn Val Asn Val Lys Val
1               5                   10                  15
Asp Thr Gly Pro Arg Glu Asp Leu Ile Lys Val Leu Glu Asp Met Arg
            20                  25                  30
Gln Glu Tyr Glu Leu Ile Ile Lys Lys Lys His Arg Asp Leu Asp Thr
        35                  40                  45
Trp Tyr Lys Glu Gln Ser Ala Ala Met Ser Gln Glu Ala Ala Ser Pro
    50                  55                  60
```

Ala Thr Val Gln Ser Arg Gln Gly Asp Ile His Glu Leu Lys Arg Thr
65 70 75 80
Phe Gln Ala Leu Glu Ile Asp Leu Gln Thr Gln Tyr Ser Thr Lys Ser
85 90 95
Ala Leu Glu Asn Met Leu Ser Glu Thr Gln Ser Arg Tyr Ser Cys Lys
100 105 110
Leu Gln Asp Met Gln Glu Ile Ile Ser His Tyr Glu Glu Glu Leu Thr
115 120 125
Gln Leu Arg His Glu Leu Glu Arg Gln Asn Asn Glu Tyr Gln Val Leu
130 135 140
Leu Gly Ile Lys Thr His Leu Glu Lys Glu Ile Thr Thr Tyr Arg Arg
145 150 155 160
Leu Leu Glu Gly Glu Ser Glu Gly Thr Arg Glu Glu Ser Lys Ser Ser
165 170 175
Met Lys Val Ser Ala Thr Pro Lys Ile Lys Ala Ile Thr Gln Glu Thr
180 185 190
Ile Asn Gly Arg Leu Val Leu Cys Gln Val Asn Glu Ile Gln Lys His
195 200 205
Ala

<210> 399

<211> 98

<212> PRT

<213> Homo sapiens

<400> 399
Met Asp Cys Cys Ala Ser Arg Gly Cys Ser Val Pro Thr Gly Pro Ala
1 5 10 15
Thr Thr Ile Cys Ser Ser Asp Lys Ser Cys Arg Cys Gly Val Cys Leu
20 25 30
Pro Ser Thr Cys Pro His Thr Val Trp Leu Leu Glu Pro Thr Cys Cys
35 40 45
Asp Asn Cys Pro Pro Pro Cys His Ile Pro Gln Pro Cys Val Pro Thr
50 55 60
Cys Phe Leu Leu Asn Ser Cys Gln Pro Thr Pro Gly Leu Glu Thr Leu
65 70 75 80
Asn Leu Thr Thr Phe Thr Gln Pro Cys Cys Glu Pro Cys Leu Pro Arg
85 90 95
Gly Cys

<210> 400

<211> 98

<212> PRT

<213> Homo sapiens

<400> 400
Met Asp Cys Cys Ala Ser Arg Ser Cys Ser Val Pro Thr Gly Pro Ala
1 5 10 15
Thr Thr Ile Cys Ser Ser Asp Lys Ser Cys Arg Cys Gly Val Cys Leu
20 25 30
Pro Ser Thr Cys Pro His Thr Val Trp Leu Leu Glu Pro Ile Cys Cys
35 40 45
Asp Asn Cys Pro Pro Pro Cys His Ile Pro Gln Pro Cys Val Pro Thr
50 55 60
Cys Phe Leu Leu Asn Ser Cys Gln Pro Thr Pro Gly Leu Glu Thr Leu
65 70 75 80

Asn Leu Thr Thr Phe Thr Gln Pro Cys Cys Glu Pro Cys Leu Pro Arg
85 90 95
Gly Cys

<210> 401

<211> 79

<212> PRT

<213> Homo sapiens

<400> 401
Met Ser Cys Cys Asp Ser Tyr Leu Gln Gly Cys Cys Ser Val Pro Thr
1 5 10 15
Gly Leu Ala Thr Thr Ile Cys Pro Ser Asp Ile Ser Cys Gln Cys Glu
20 25 30
Val Cys Leu Pro Ser Thr Cys Pro His Glu Ile Ser Leu Leu Gln Pro
35 40 45
Thr Cys Cys Glu Pro Gly Pro Cys Leu Ala Ala Cys Leu Thr Pro Met
50 55 60
Cys His Pro Val Asp Cys Ser Thr Asn Ala Thr Gln Leu Gln Pro
65 70 75
<210> 402

<211> 98

<212> PRT

<213> Homo sapiens

<400> 402
Met Tyr Cys Cys Ala Leu Arg Ser Cys Ser Val Pro Thr Gly Pro Ala
1 5 10 15
Thr Thr Phe Cys Ser Phe Asp Lys Ser Cys Arg Cys Gly Val Cys Leu
20 25 30
Pro Ser Thr Cys Pro His Glu Ile Ser Leu Leu Gln Pro Ile Cys Cys
35 40 45
Asp Thr Cys Pro Pro Pro Cys Cys Lys Pro Asp Thr Tyr Val Pro Thr
50 55 60
Cys Trp Leu Leu Asn Asn Cys His Pro Thr Pro Gly Leu Ser Gly Ile
65 70 75 80
Asn Leu Thr Thr Tyr Val Gln Pro Gly Cys Glu Ser Pro Cys Glu Pro
85 90 95
Arg Cys

<210> 403

<211> 174

<212> PRT

<213> Homo sapiens

<400> 403
Met Thr Cys Cys Gln Thr Ser Phe Cys Gly Tyr Pro Ser Phe Ser Ile
1 5 10 15
Ser Gly Thr Cys Gly Ser Ser Cys Cys Gln Pro Ser Cys Cys Glu Thr
20 25 30

```
Ser Cys Cys Gln Pro Arg Ser Cys Gln Thr Ser Phe Cys Gly Phe Pro
        35                  40                  45
Ser Phe Ser Thr Ser Gly Thr Cys Ser Ser Ser Cys Cys Gln Pro Ser
    50                  55                  60
Cys Cys Glu Thr Ser Cys Cys Gln Pro Ser Cys Cys Glu Thr Ser Cys
65                  70                  75                  80
Cys Gln Pro Ser Cys Cys Gln Ile Ser Ser Cys Gly Thr Gly Cys Gly
                85                  90                  95
Ile Gly Gly Gly Ile Ser Tyr Gly Gln Glu Gly Ser Ser Gly Ala Val
            100                 105                 110
Ser Thr Arg Ile Arg Trp Cys Arg Pro Asp Ser Arg Val Glu Gly Thr
        115                 120                 125
Tyr Leu Pro Pro Cys Cys Val Val Ser Cys Thr Pro Pro Ser Cys Cys
    130                 135                 140
Gln Leu His His Ala Gln Ala Ser Cys Cys Arg Pro Ser Tyr Cys Gly
145                 150                 155                 160
Gln Ser Cys Cys Arg Pro Val Cys Cys Cys Glu Pro Thr Cys
                165                 170
<210>  404

<211>  167

<212>  PRT

<213>  Homo sapiens


<400>  404
Met Thr Cys Cys Gln Thr Ser Phe Cys Gly Tyr Pro Ser Cys Ser Thr
1               5                   10                  15
Ser Gly Thr Cys Gly Ser Ser Cys Cys Gln Pro Ser Cys Cys Glu Thr
            20                  25                  30
Ser Cys Cys Gln Pro Ser Cys Cys Gln Thr Ser Phe Cys Gly Phe Pro
        35                  40                  45
Ser Phe Ser Thr Ser Gly Thr Cys Ser Ser Ser Cys Cys Gln Pro Ser
    50                  55                  60
Cys Cys Glu Thr Ser Cys Cys Gln Pro Ser Cys Cys Gln Thr Ser Ser
65                  70                  75                  80
Cys Gly Thr Gly Cys Gly Ile Gly Gly Gly Ile Gly Tyr Gly Gln Glu
                85                  90                  95
Gly Ser Ser Gly Ala Val Ser Thr Arg Ile Arg Trp Cys Arg Pro Asp
            100                 105                 110
Cys Arg Val Glu Gly Thr Cys Leu Pro Pro Cys Cys Val Val Ser Cys
        115                 120                 125
Thr Pro Pro Thr Cys Cys Gln Leu His His Ala Glu Ala Ser Cys Cys
    130                 135                 140
Arg Pro Ser Tyr Cys Gly Gln Ser Cys Cys Arg Pro Val Cys Cys Cys
145                 150                 155                 160
Tyr Ser Cys Glu Pro Thr Cys
                165
<210>  405

<211>  177

<212>  PRT

<213>  Homo sapiens


<400>  405
Met Ala Cys Cys Gln Thr Ser Phe Cys Gly Phe Pro Ser Cys Ser Thr
1               5                   10                  15
Ser Gly Thr Cys Gly Ser Ser Cys Cys Gln Pro Ser Cys Cys Glu Thr
            20                  25                  30
```

Ser Ser Cys Gln Pro Arg Cys Cys Glu Thr Ser Cys Cys Gln Pro Ser
35 40 45
Cys Cys Gln Thr Ser Phe Cys Gly Phe Pro Ser Phe Ser Thr Gly Gly
50 55 60
Thr Cys Asp Ser Ser Cys Cys Gln Pro Ser Cys Cys Glu Thr Ser Cys
65 70 75 80
Cys Gln Pro Ser Cys Tyr Gln Thr Ser Ser Cys Gly Thr Gly Cys Gly
85 90 95
Ile Gly Gly Gly Ile Gly Tyr Gly Gln Glu Gly Ser Ser Gly Ala Val
100 105 110
Ser Thr Arg Ile Arg Trp Cys Arg Pro Asp Cys Arg Val Glu Gly Thr
115 120 125
Cys Leu Pro Pro Cys Cys Val Val Ser Cys Thr Pro Pro Ser Cys Cys
130 135 140
Gln Leu His His Ala Glu Ala Ser Cys Cys Arg Pro Ser Tyr Cys Gly
145 150 155 160
Gln Ser Cys Cys Arg Pro Val Cys Cys Cys Tyr Cys Ser Glu Pro Thr
165 170 175
Cys

<210> 406

<211> 85

<212> PRT

<213> Homo sapiens

<400> 406
Val Thr Cys Val Pro Arg Cys Thr Arg Pro Ile Cys Glu Pro Cys Arg
1 5 10 15
Arg Pro Val Cys Cys Asp Pro Cys Ser Leu Gln Glu Gly Cys Cys Arg
20 25 30
Pro Ile Thr Cys Cys Pro Ser Ser Cys Thr Ala Val Val Cys Arg Pro
35 40 45
Cys Cys Trp Ala Thr Thr Cys Cys Gln Pro Val Ser Val Gln Ser Pro
50 55 60
Cys Cys Arg Pro Pro Cys Gly Gln Pro Thr Pro Cys Ser Thr Thr Cys
65 70 75 80
Arg Thr Ser Ser Cys
85

<210> 407

<211> 128

<212> PRT

<213> Homo sapiens

<400> 407
Met Thr Gly Ser Cys Cys Gly Ser Thr Leu Ser Ser Leu Ser Tyr Gly
1 5 10 15
Gly Gly Cys Cys Gln Pro Cys Cys Cys Arg Asp Pro Cys Cys Cys Arg
20 25 30
Pro Val Thr Cys Gln Thr Thr Val Cys Arg Pro Val Thr Cys Val Pro
35 40 45
Arg Cys Thr Arg Pro Ile Cys Glu Pro Cys Arg Arg Pro Val Cys Cys
50 55 60
Asp Pro Cys Ser Leu Gln Glu Gly Cys Cys Arg Pro Ile Thr Cys Cys
65 70 75 80
Pro Ser Ser Cys Thr Ala Val Val Cys Arg Pro Cys Cys Trp Ala Thr
85 90 95

Thr Cys Cys Gln Pro Val Ser Val Gln Ser Pro Cys Cys Arg Pro Pro
100 105 110
Cys Gly Gln Pro Thr Pro Cys Ser Thr Thr Cys Arg Thr Ser Ser Cys
115 120 125

<210> 408

<211> 20

<212> PRT

<213> Homo sapiens

<400> 408
Met Glu Thr His Cys Thr Gly Arg Ser Ala Ser Phe Cys Ser Ser Ser
1 5 10 15
Ala Ile Leu Ile
20

<210> 409

<211> 210

<212> PRT

<213> Homo sapiens

<400> 409
Met Val Ser Ser Cys Cys Gly Ser Val Cys Ser Asp Gln Gly Cys Gly
1 5 10 15
Gln Val Leu Cys Gln Glu Thr Cys Cys Arg Pro Ser Cys Cys Gln Thr
20 25 30
Thr Cys Cys Arg Thr Thr Cys Tyr Arg Pro Ser Cys Cys Val Ser Ser
35 40 45
Cys Cys Arg Pro Gln Cys Cys Gln Ser Val Cys Cys Gln Pro Thr Cys
50 55 60
Cys Arg Pro Ser Cys Cys Glu Thr Thr Cys Cys His Pro Arg Cys Cys
65 70 75 80
Ile Ser Ser Cys Cys Arg Pro Ser Cys Cys Met Ser Ser Cys Cys Lys
85 90 95
Pro Gln Cys Cys Gln Ser Val Cys Cys Gln Pro Thr Cys Cys Arg Pro
100 105 110
Ser Cys Cys Ile Ser Ser Cys Cys Arg Pro Ser Cys Cys Val Ser Arg
115 120 125
Cys Cys Arg Pro Gln Cys Cys Gln Ser Val Cys Cys Gln Pro Thr Cys
130 135 140
Cys Arg Pro Ser Cys Cys Ile Ser Ser Cys Cys Arg Pro Ser Cys Cys
145 150 155 160
Glu Ser Ser Cys Cys Arg Pro Cys Cys Cys Arg Pro Cys Cys Cys Leu
165 170 175
Arg Pro Val Cys Gly Arg Val Ser Cys His Thr Thr Cys Tyr Arg Pro
180 185 190
Thr Cys Val Ile Ser Thr Cys Pro Arg Pro Leu Cys Cys Ala Ser Ser
195 200 205
Cys Cys
210

<210> 410

<211> 195

<212> PRT

<213> Homo sapiens

<400> 410
Met Val Asn Ser Cys Cys Gly Ser Val Cys Ser His Gln Gly Cys Gly
1 5 10 15
Gln Asp Leu Cys Gln Glu Thr Cys Cys Arg Pro Ser Cys Cys Glu Thr
20 25 30
Thr Cys Cys Arg Thr Thr Tyr Cys Arg Pro Ser Cys Cys Val Ser Ser
35 40 45
Cys Cys Arg Pro Gln Cys Cys Gln Ser Val Cys Cys Gln Pro Thr Cys
50 55 60
Cys Arg Pro Arg Cys Cys Ile Ser Ser Cys Cys Arg Pro Ser Cys Cys
65 70 75 80
Val Ser Ser Cys Cys Lys Pro Gln Cys Cys Gln Ser Met Cys Cys Gln
85 90 95
Pro Thr Cys Cys Arg Pro Arg Cys Cys Ile Ser Ser Cys Cys Arg Pro
100 105 110
Ser Cys Cys Val Ser Ser Cys Cys Arg Pro Gln Cys Cys Gln Ser Val
115 120 125
Cys Cys Gln Pro Thr Cys Cys His Pro Ser Cys Ser Ile Ser Ser Cys
130 135 140
Cys Arg Pro Ser Cys Cys Glu Ser Ser Cys Cys Arg Pro Cys Cys Cys
145 150 155 160
Leu Arg Pro Val Cys Gly Gly Val Ser Cys His Thr Thr Cys Tyr Arg
165 170 175
Pro Thr Cys Val Ile Ser Ser Cys Pro Arg Pro Leu Cys Cys Ala Ser
180 185 190
Ser Cys Cys
195

<210> 411

<211> 201

<212> PRT

<213> Homo sapiens

<400> 411
Met Val Asn Ser Cys Cys Gly Ser Val Cys Ser Asp Gln Gly Cys Gly
1 5 10 15
Leu Glu Asn Cys Cys Arg Pro Ser Cys Cys Gln Thr Thr Cys Cys Arg
20 25 30
Thr Thr Cys Cys Arg Pro Ser Cys Cys Val Ser Ser Cys Cys Arg Pro
35 40 45
Gln Cys Cys Gln Ser Val Cys Cys Gln Pro Thr Cys Cys Arg Pro Ser
50 55 60
Cys Cys Gln Thr Thr Cys Cys Arg Thr Thr Cys Cys Arg Pro Ser Cys
65 70 75 80
Cys Val Ser Ser Cys Cys Arg Pro Gln Cys Cys Gln Ser Val Cys Cys
85 90 95
Gln Pro Thr Cys Cys Arg Pro Ser Cys Cys Gln Thr Thr Cys Cys Arg
100 105 110
Thr Thr Cys Cys Arg Pro Ser Cys Cys Val Ser Ser Cys Cys Arg Pro
115 120 125
Gln Cys Cys Gln Ser Val Cys Cys Gln Pro Thr Cys Cys Arg Pro Ser
130 135 140
Cys Cys Ile Ser Ser Ser Cys Cys Pro Ser Cys Cys Glu Ser Ser Cys
145 150 155 160
Cys Arg Pro Cys Cys Cys Leu Arg Pro Val Cys Gly Arg Val Ser Cys
165 170 175
His Thr Thr Cys Tyr Arg Pro Thr Cys Val Ile Ser Thr Cys Pro Arg
180 185 190
Pro Leu Cys Cys Ala Ser Ser Cys Cys
195 200

<210> 412

<211> 186

<212> PRT

<213> Homo sapiens

<400> 412

```
Met Val Ser Ser Cys Cys Gly Ser Val Ser Ser Glu Gln Ser Cys Gly
1               5                  10                  15
Leu Glu Asn Cys Cys Arg Pro Ser Cys Cys Gln Thr Thr Cys Cys Arg
            20                  25                  30
Thr Thr Cys Cys Arg Pro Ser Cys Cys Lys Pro Gln Cys Cys Gln Ser
        35                  40                  45
Val Cys Tyr Gln Pro Thr Cys Cys His Pro Ser Cys Cys Ile Ser Ser
    50                  55                  60
Cys Cys His Pro Tyr Cys Cys Glu Ser Ser Cys Cys Arg Pro Cys Cys
65                  70                  75                  80
Cys Arg Pro Ser Cys Cys Gln Thr Thr Cys Cys Arg Thr Thr Cys Cys
                85                  90                  95
Arg Thr Thr Cys Cys Cys Pro Ser Cys Cys Val Ser Ser Cys Cys Arg
            100                 105                 110
Pro Gln Cys Cys Gln Ser Val Cys Cys Gln Pro Thr Cys Cys Arg Pro
        115                 120                 125
Ser Cys Cys Ile Ser Ser Cys Cys His Pro Ser Cys Cys Glu Ser Ser
    130                 135                 140
Cys Cys Arg Pro Cys Cys Cys Val Arg Pro Val Cys Gly Arg Val Ser
145                 150                 155                 160
Cys His Thr Thr Cys Tyr Arg Pro Thr Cys Val Ile Ser Thr Cys Pro
                165                 170                 175
Arg Pro Leu Cys Cys Ala Ser Ser Cys Cys
            180                 185
```

<210> 413

<211> 106

<212> PRT

<213> Homo sapiens

<400> 413

```
Met Val Asn Ser Cys Cys Gly Ser Val Cys Ser Asp Gln Gly Cys Gly
1               5                  10                  15
Leu Glu Asn Cys Cys Arg Pro Ser Tyr Cys Gln Thr Thr Cys Cys Arg
            20                  25                  30
Thr Thr Cys Cys Arg Pro Ser Cys Cys Arg Pro Ser Cys Cys Arg Pro
        35                  40                  45
Gln Cys Cys Gln Ser Val Cys Cys Gln Pro Thr Cys Cys Cys Pro Ser
    50                  55                  60
Tyr Cys Val Ser Ser Cys Cys Arg Pro Gln Cys Cys Gln Thr Thr Arg
65                  70                  75                  80
Cys Arg Thr Thr Cys Cys Arg Pro Ser Cys Cys Val Ser Arg Cys Tyr
                85                  90                  95
Arg Pro His Cys Gly Gln Ser Leu Cys Cys
            100                 105
```

<210> 414

<211> 166

<212> PRT

<213> Homo sapiens

<400> 414

```
Met Val Asn Ser Cys Cys Gly Ser Val Cys Ser Asp Gln Gly Cys Gly
1               5                  10                  15
Leu Glu Asn Cys Cys Arg Pro Ser Tyr Cys Gln Thr Thr Cys Cys Arg
            20                  25                  30
Thr Thr Cys Cys Arg Pro Ser Cys Cys Val Ser Ser Cys Cys Arg Pro
        35                  40                  45
Gln Cys Cys Gln Thr Thr Cys Cys Arg Thr Thr Cys Cys His Pro Ser
    50                  55                  60
Cys Cys Val Ser Ser Cys Cys Arg Pro Gln Cys Cys Gln Ser Val Cys
65                  70                  75                  80
Cys Gln Pro Thr Cys Cys Arg Pro Gln Cys Cys Gln Thr Thr Cys Cys
                85                  90                  95
Arg Thr Thr Cys Cys Arg Pro Ser Cys Cys Arg Pro Gln Cys Cys Gln
            100                 105                 110
Ser Val Cys Cys Gln Pro Thr Cys Cys Cys Pro Ser Tyr Cys Val Ser
        115                 120                 125
Ser Cys Cys Arg Pro Gln Cys Cys Gln Thr Thr Cys Cys Arg Thr Thr
    130                 135                 140
Cys Cys Arg Pro Ser Cys Cys Val Ser Arg Cys Tyr Arg Pro His Cys
145                 150                 155                 160
Gly Gln Ser Leu Cys Cys
                165
```

<210> 415

<211> 136

<212> PRT

<213> Homo sapiens

<400> 415

```
Met Val Asn Ser Cys Cys Gly Ser Val Cys Ser Asp Gln Gly Cys Gly
1               5                  10                  15
Leu Glu Asn Cys Cys Arg Pro Ser Cys Cys Gln Thr Thr Cys Cys Arg
            20                  25                  30
Thr Thr Cys Cys Arg Pro Ser Cys Cys Val Ser Ser Cys Cys Arg Pro
        35                  40                  45
Gln Cys Cys Gln Ser Val Cys Cys Gln Pro Thr Cys Cys Ser Pro Ser
    50                  55                  60
Cys Cys Gln Thr Thr Cys Cys Arg Thr Thr Cys Cys Arg Pro Ser Cys
65                  70                  75                  80
Cys Val Ser Ser Cys Phe Arg Pro Gln Cys Cys Gln Ser Val Cys Cys
                85                  90                  95
Gln Pro Thr Cys Cys Arg Pro Ser Cys Gly Gln Thr Thr Cys Cys Arg
            100                 105                 110
Thr Thr Cys Tyr Arg Pro Ser Cys Cys Val Ser Thr Cys Cys Arg Pro
        115                 120                 125
Thr Cys Ser Ser Gly Ser Cys Cys
    130                 135
```

<210> 416

<211> 127

<212> PRT

<213> Homo sapiens

<400> 416
Met Val Asn Ser Cys Cys Gly Ser Val Cys Ser Asp Gln Gly Cys Asp
1 5 10 15
Gln Gly Leu Cys Gln Glu Thr Cys Cys Arg Pro Ser Cys Cys Gln Thr
20 25 30
Thr Cys Cys Cys Pro Ser Cys Val Val Ser Ser Cys Cys Arg Pro Ser
35 40 45
Cys Ser Gln Thr Thr Cys Cys Gln Thr Thr Cys Cys Arg Pro Ser Cys
50 55 60
Cys Arg Pro Val Cys Cys Gln Thr Thr Cys Arg Pro Ser Cys Gly Val
65 70 75 80
Ser Ser Cys Cys Arg Pro Leu Cys Cys Gln Thr Thr Cys Arg Pro Ser
85 90 95
Cys Gly Val Ser Ser Cys Cys Arg Pro Leu Cys Cys Gln Thr Thr Cys
100 105 110
Cys Arg Thr Thr Cys Cys Arg Pro Ser Cys Cys Gly Ser Ser Cys
115 120 125
<210> 417

<211> 174

<212> PRT

<213> Homo sapiens

<400> 417
Met Thr His Cys Cys Ser Pro Cys Cys Gln Pro Thr Cys Cys Arg Thr
1 5 10 15
Thr Cys Cys Arg Thr Thr Cys Trp Lys Pro Thr Thr Val Thr Thr Cys
20 25 30
Ser Ser Thr Pro Cys Cys Gln Pro Ala Cys Cys Val Ser Ser Cys Cys
35 40 45
Gln Pro Cys Cys Arg Pro Thr Cys Cys Gln Asn Thr Cys Cys Arg Thr
50 55 60
Thr Cys Cys Gln Pro Thr Cys Val Thr Ser Cys Cys Gln Pro Ser Cys
65 70 75 80
Cys Ser Thr Pro Cys Cys Gln Pro Thr Cys Cys Gly Ser Ser Cys Cys
85 90 95
Gly Gln Thr Ser Cys Gly Ser Ser Cys Gly Gln Ser Ser Ser Cys Ala
100 105 110
Pro Val Tyr Cys Arg Arg Thr Cys Tyr Tyr Pro Thr Thr Val Cys Leu
115 120 125
Pro Gly Cys Leu Asn Gln Ser Cys Gly Ser Asn Cys Cys Gln Pro Cys
130 135 140
Cys Arg Pro Ala Cys Cys Glu Thr Thr Cys Cys Arg Thr Thr Cys Phe
145 150 155 160
Gln Pro Thr Cys Val Ser Ser Cys Cys Gln Pro Ser Cys Cys
165 170
<210> 418

<211> 159

<212> PRT

<213> Homo sapiens

<400> 418
Met Thr His Cys Cys Ser Pro Cys Cys Gln Pro Thr Cys Cys Arg Thr
1 5 10 15
Thr Cys Trp Gln Pro Thr Thr Val Thr Thr Cys Ser Ser Thr Pro Cys
20 25 30

```
Cys Gln Pro Ser Cys Cys Val Ser Ser Cys Cys Gln Pro Cys Cys His
        35                  40                  45
Pro Thr Cys Cys Gln Asn Thr Cys Cys Arg Thr Thr Cys Cys Gln Pro
    50                  55                  60
Ile Cys Val Thr Ser Cys Cys Gln Pro Ser Cys Cys Ser Thr Pro Cys
65                  70                  75                  80
Cys Gln Pro Thr Cys Cys Gly Ser Ser Cys Gly Gln Ser Ser Ser Cys
                85                  90                  95
Ala Pro Val Tyr Cys Arg Arg Thr Cys Tyr His Pro Thr Ser Val Cys
            100                 105                 110
Leu Pro Gly Cys Leu Asn Gln Ser Cys Gly Ser Asn Cys Cys Gln Pro
        115                 120                 125
Cys Cys Arg Pro Ala Cys Cys Glu Thr Thr Cys Cys Arg Thr Thr Cys
    130                 135                 140
Phe Gln Pro Thr Cys Val Tyr Ser Cys Cys Gln Pro Ser Cys Cys
145                 150                 155
<210>  419

<211>  159

<212>  PRT

<213>  Homo sapiens


<400>  419
Met Thr His Cys Cys Ser Pro Cys Cys Gln Pro Thr Cys Cys Arg Thr
1               5                   10                  15
Thr Cys Trp Lys Pro Thr Thr Val Thr Thr Cys Ser Ser Thr Pro Cys
            20                  25                  30
Cys Gln Pro Ser Cys Cys Val Ser Ser Cys Cys Gln Pro Cys Cys Arg
        35                  40                  45
Pro Thr Cys Cys Gln Asn Thr Cys Cys Gln Pro Ile Cys Val Thr Ser
    50                  55                  60
Cys Cys Gln Pro Ser Cys Cys Ser Thr Pro Cys Cys Gln Pro Thr Cys
65                  70                  75                  80
Cys Gly Gln Thr Ser Cys Gly Ser Ser Cys Gly Gln Ser Ser Ser Cys
                85                  90                  95
Ala Pro Val Tyr Cys Arg Arg Thr Cys Tyr His Pro Thr Thr Val Cys
            100                 105                 110
Leu Pro Gly Cys Leu Asn Gln Ser Cys Gly Ser Ser Cys Cys Gln Pro
        115                 120                 125
Cys Cys Arg Pro Ala Cys Cys Glu Thr Thr Cys Cys Arg Thr Thr Cys
    130                 135                 140
Phe Gln Pro Thr Cys Val Tyr Ser Cys Cys Gln Pro Ser Cys Cys
145                 150                 155
<210>  420

<211>  154

<212>  PRT

<213>  Homo sapiens


<400>  420
Met Thr His Cys Cys Ser Pro Cys Cys Gln Pro Thr Cys Cys Arg Thr
1               5                   10                  15
Thr Cys Cys Arg Thr Thr Cys Trp Lys Pro Thr Thr Val Thr Thr Cys
            20                  25                  30
Ser Ser Thr Pro Cys Cys Gln Pro Ser Cys Cys Val Ser Ser Cys Cys
        35                  40                  45
Gln Pro Cys Cys Arg Pro Ala Cys Cys Gln Asn Thr Cys Cys Arg Thr
    50                  55                  60
```

Thr Cys Cys Gln Pro Thr Cys Leu Ser Ser Cys Cys Gly Gln Thr Ser
65 70 75 80
Cys Gly Ser Ser Cys Gly Gln Ser Ser Ser Cys Ala Pro Val Tyr Cys
85 90 95
Arg Arg Thr Cys Tyr Tyr Pro Thr Thr Val Cys Leu Pro Gly Cys Leu
100 105 110
Asn Gln Ser Cys Gly Ser Ser Cys Cys Gln Pro Cys Cys Arg Pro Ala
115 120 125
Cys Cys Glu Thr Thr Cys Cys Arg Thr Thr Cys Phe Gln Pro Thr Cys
130 135 140
Val Ser Ser Cys Cys Gln Pro Ser Cys Cys
145 150

<210> 421

<211> 154

<212> PRT

<213> Homo sapiens

<400> 421
Met Thr His Cys Cys Ser Pro Cys Cys Gln Pro Thr Cys Cys Arg Thr
1 5 10 15
Thr Cys Cys Arg Thr Thr Cys Trp Lys Pro Thr Thr Val Thr Thr Cys
20 25 30
Ser Ser Thr Pro Cys Cys Gln Pro Ser Cys Cys Val Ser Ser Cys Cys
35 40 45
Gln Pro Cys Cys Arg Pro Thr Cys Cys Gln Asn Thr Cys Cys Gln Pro
50 55 60
Thr Cys Val Thr Ser Cys Cys Gln Pro Ser Cys Cys Ser Thr Pro Cys
65 70 75 80
Cys Gln Pro Thr Cys Cys Gly Ser Ser Cys Asp Gln Ser Ser Ser Cys
85 90 95
Ala Pro Val Tyr Cys Arg Arg Thr Cys Tyr Tyr Pro Thr Thr Val Cys
100 105 110
Leu Pro Gly Cys Leu Asn Gln Ser Cys Gly Ser Asn Cys Cys Gln Pro
115 120 125
Cys Cys Arg Pro Ala Cys Cys Glu Thr Thr Cys Phe Gln Pro Thr Cys
130 135 140
Val Ser Ser Cys Cys Gln Pro Phe Cys Cys
145 150

<210> 422

<211> 138

<212> PRT

<213> Homo sapiens

<400> 422
Met Leu Gln Asp His Leu Leu Gln Asp Asn Leu Leu Glu Ala His His
1 5 10 15
Cys Asp His Leu Gln Gln His Ile Leu Leu Pro Ala Leu Leu Leu Cys
20 25 30
Val Gln Leu Leu Pro Ala Leu Leu Pro Pro Asn Leu Leu Ser Lys His
35 40 45
Leu Leu Gln Asp His Leu Leu Pro Ala His Leu Cys Asp Gln Leu Leu
50 55 60
Pro Ala Phe Leu Leu Gln His Thr Leu Leu Thr Ala His Leu Leu Trp
65 70 75 80
Val Gln Leu Leu Trp Pro Asn His Leu Trp Val Gln Leu Leu Pro Ala
85 90 95

```
Gln Leu Leu Cys Thr His Leu Leu Gln Glu Asn Leu Leu Pro Pro His
            100                 105                 110
Glu Cys Leu Pro Ala Trp Leu Pro Lys Ser Glu Leu Trp Leu Gln Leu
        115                 120                 125
Leu Pro Ala Leu Leu Pro Pro Ser Leu Leu
    130                 135
<210>  423

<211>  409

<212>  PRT

<213>  Homo sapiens


<400>  423
Met Ser Gly Ser Cys Ser Ser Arg Lys Cys Phe Ser Val Pro Ala Thr
1               5                   10                  15
Ser Leu Cys Ser Thr Glu Val Ser Cys Gly Gly Pro Ile Cys Leu Pro
            20                  25                  30
Ser Ser Cys Gln Ser Gln Thr Trp Gln Leu Val Thr Cys Gln Asp Ser
        35                  40                  45
Cys Gly Ser Ser Ser Cys Gly Pro Gln Cys Arg Gln Pro Ser Cys Pro
    50                  55                  60
Val Ser Ser Cys Ala Gln Pro Leu Cys Cys Asp Pro Val Ile Cys Glu
65                  70                  75                  80
Pro Ser Cys Ser Val Ser Ser Gly Cys Gln Pro Val Cys Cys Glu Ala
                85                  90                  95
Thr Thr Cys Glu Pro Ser Cys Ser Val Ser Asn Cys Tyr Gln Pro Val
            100                 105                 110
Cys Phe Glu Ala Thr Ile Cys Glu Pro Ser Cys Ser Val Ser Asn Cys
        115                 120                 125
Cys Gln Pro Val Cys Phe Glu Ala Thr Val Cys Glu Pro Ser Cys Ser
    130                 135                 140
Val Ser Ser Cys Ala Gln Pro Val Cys Cys Glu Pro Ala Ile Cys Glu
145                 150                 155                 160
Pro Ser Cys Ser Val Ser Ser Cys Cys Gln Pro Val Gly Ser Glu Ala
                165                 170                 175
Thr Ser Cys Gln Pro Val Leu Cys Val Pro Thr Ser Cys Gln Pro Val
            180                 185                 190
Leu Cys Lys Ser Ser Cys Cys Gln Pro Val Val Cys Glu Pro Ser Cys
        195                 200                 205
Cys Ser Ala Val Cys Thr Leu Pro Ser Ser Cys Gln Pro Val Val Cys
    210                 215                 220
Glu Pro Ser Cys Cys Gln Pro Val Cys Pro Thr Pro Thr Cys Ser Val
225                 230                 235                 240
Thr Ser Ser Cys Gln Ala Val Cys Cys Asp Pro Ser Pro Trp Ser Ser
                245                 250                 255
Ala Ser Ala Ile Cys Arg Pro Thr Cys Pro Arg Thr Phe Tyr Ile Pro
            260                 265                 270
Ser Ser Ser Lys Arg Pro Cys Ser Ala Thr Ile Ser Tyr Arg Pro Val
        275                 280                 285
Ser Arg Pro Ile Cys Arg Pro Ile Cys Ser Gly Leu Leu Thr Tyr Arg
    290                 295                 300
Gln Pro Tyr Met Thr Ser Ile Ser Tyr Arg Pro Ala Cys Tyr Arg Pro
305                 310                 315                 320
Cys Tyr Ser Ile Leu Arg Arg Pro Ala Cys Val Thr Ser Tyr Ser Cys
                325                 330                 335
Arg Pro Val Tyr Phe Arg Pro Ser Cys Thr Glu Ser Asp Ser Cys Lys
            340                 345                 350
Arg Asp Cys Lys Lys Ser Thr Ser Ser Gln Leu Asp Cys Val Asp Thr
        355                 360                 365
Thr Pro Cys Lys Val Asp Val Ser Glu Glu Ala Pro Cys Gln Pro Thr
    370                 375                 380
```

Glu Ala Lys Pro Ile Ser Pro Thr Thr Arg Glu Ala Ala Ala Ala Gln
385 390 395 400
Pro Ala Ala Ser Lys Pro Ala Asn Cys
405

<210> 424

<211> 105

<212> PRT

<213> Homo sapiens

<400> 424
Met Gly Cys Cys Pro Gly Asp Cys Phe Thr Cys Cys Thr Gln Glu Gln
1 5 10 15
Asn Cys Cys Glu Glu Cys Cys Cys Gln Pro Gly Cys Cys Gly Cys Cys
20 25 30
Gly Ser Cys Cys Gly Cys Gly Gly Ser Gly Cys Gly Gly Ser Gly Cys
35 40 45
Gly Gly Ser Cys Cys Gly Ser Ser Cys Cys Gly Ser Gly Cys Gly Gly
50 55 60
Cys Gly Gly Cys Gly Gly Cys Gly Gly Gly Cys Cys Gly Ser Ser Cys
65 70 75 80
Cys Gly Ser Ser Cys Cys Gly Ser Gly Cys Cys Gly Pro Val Cys Cys
85 90 95
Gln Pro Thr Pro Ile Cys Asp Thr Lys
100 105

<210> 425

<211> 404

<212> PRT

<213> Homo sapiens

<400> 425
Met Ser Tyr Ser Cys Gly Leu Pro Ser Leu Ser Cys Arg Thr Ser Cys
1 5 10 15
Ser Ser Arg Pro Cys Val Pro Pro Ser Cys His Gly Cys Thr Leu Pro
20 25 30
Gly Ala Cys Asn Ile Pro Ala Asn Val Ser Asn Cys Asn Trp Phe Cys
35 40 45
Glu Gly Ser Phe Asn Gly Ser Glu Lys Glu Thr Met Gln Phe Leu Asn
50 55 60
Asp Arg Leu Ala Ser Tyr Leu Glu Lys Val Arg Gln Leu Glu Arg Asp
65 70 75 80
Asn Ala Glu Leu Glu Asn Leu Ile Arg Glu Arg Ser Gln Gln Gln Glu
85 90 95
Pro Leu Val Cys Ala Ser Tyr Gln Ser Tyr Phe Lys Thr Ile Glu Glu
100 105 110
Leu Gln Gln Lys Ile Leu Cys Ser Lys Ser Glu Asn Ala Arg Leu Val
115 120 125
Val Gln Ile Asp Asn Ala Lys Leu Ala Ser Asp Asp Phe Arg Thr Lys
130 135 140
Tyr Glu Thr Glu Leu Ser Leu Arg Gln Leu Val Glu Ser Asp Ile Asn
145 150 155 160
Gly Leu Arg Arg Ile Leu Asp Glu Leu Thr Leu Cys Arg Ser Asp Leu
165 170 175
Glu Ala Gln Val Glu Ser Leu Lys Glu Glu Leu Leu Cys Leu Lys Gln
180 185 190
Asn His Glu Gln Glu Val Asn Thr Leu Arg Cys Gln Leu Gly Asp Arg
195 200 205

```
Leu Asn Val Glu Val Asp Ala Ala Pro Thr Val Asp Leu Asn Gln Val
    210                 215                 220
Leu Asn Glu Thr Arg Ser Gln Tyr Glu Ala Leu Val Glu Thr Asn Arg
225                 230                 235                 240
Arg Glu Val Glu Gln Trp Phe Ala Thr Gln Thr Glu Glu Leu Asn Lys
                245                 250                 255
Gln Val Val Ser Ser Ser Glu Gln Leu Gln Ser Tyr Gln Ala Glu Ile
            260                 265                 270
Ile Glu Leu Arg Arg Thr Val Asn Ala Leu Glu Ile Glu Leu Gln Ala
        275                 280                 285
Gln His Asn Leu Arg Asp Ser Leu Glu Asn Thr Leu Thr Glu Ser Glu
    290                 295                 300
Ala Arg Tyr Ser Ser Gln Leu Ser Gln Val Gln Arg Leu Ile Thr Asn
305                 310                 315                 320
Val Glu Ser Gln Leu Ala Glu Ile Arg Ser Asp Leu Glu Arg Gln Asn
                325                 330                 335
Gln Glu Tyr Gln Val Leu Leu Asp Val Arg Ala Arg Leu Glu Cys Glu
            340                 345                 350
Ile Asn Thr Tyr Arg Ser Leu Leu Glu Ser Glu Asp Cys Lys Leu Pro
        355                 360                 365
Ser Asn Pro Cys Ala Thr Thr Asn Ala Cys Asp Lys Ser Thr Gly Pro
    370                 375                 380
Cys Ile Ser Asn Pro Cys Gly Leu Arg Ala Arg Cys Gly Pro Cys Asn
385                 390                 395                 400
Thr Phe Gly Tyr
```

<210> 426

<211> 404

<212> PRT

<213> Homo sapiens

<400> 426

```
Met Pro Tyr Asn Phe Cys Leu Pro Ser Leu Ser Cys Arg Thr Ser Cys
1               5                   10                  15
Ser Ser Arg Pro Cys Val Pro Pro Ser Cys His Gly Tyr Thr Leu Pro
            20                  25                  30
Gly Ala Cys Asn Ile Pro Ala Asn Val Ser Asn Cys Asn Trp Phe Cys
        35                  40                  45
Glu Gly Ser Phe Asn Gly Ser Glu Lys Glu Thr Met Gln Phe Leu Asn
    50                  55                  60
Asp Arg Leu Ala Ser Tyr Leu Glu Lys Val Arg Gln Leu Glu Arg Asp
65                  70                  75                  80
Asn Ala Glu Leu Glu Asn Leu Ile Arg Glu Arg Ser Gln Gln Gln Glu
                85                  90                  95
Pro Leu Leu Cys Pro Ser Tyr Gln Ser Tyr Phe Lys Thr Ile Glu Glu
            100                 105                 110
Leu Gln Gln Lys Ile Leu Cys Ser Lys Ser Glu Asn Ala Arg Leu Val
        115                 120                 125
Val Gln Ile Asp Asn Ala Lys Leu Ala Ala Asp Asp Phe Arg Thr Lys
    130                 135                 140
Tyr Gln Thr Glu Gln Ser Leu Arg Gln Leu Val Glu Ser Asp Ile Asn
145                 150                 155                 160
Ser Leu Arg Arg Ile Leu Asp Glu Leu Thr Leu Cys Arg Ser Asp Leu
                165                 170                 175
Glu Ala Gln Met Glu Ser Leu Lys Glu Glu Leu Leu Ser Leu Lys Gln
            180                 185                 190
Asn His Glu Gln Glu Val Asn Thr Leu Arg Cys Gln Leu Gly Asp Arg
        195                 200                 205
Leu Asn Val Glu Val Asp Ala Ala Pro Ala Val Asp Leu Asn Gln Val
    210                 215                 220
```

Leu Asn Glu Thr Arg Asn Gln Tyr Glu Ala Leu Val Glu Thr Asn Arg
225 230 235 240
Arg Glu Val Glu Gln Trp Phe Ala Thr Gln Thr Glu Glu Leu Asn Lys
245 250 255
Gln Val Val Ser Ser Ser Glu Gln Leu Gln Ser Tyr Gln Ala Glu Ile
260 265 270
Ile Glu Leu Arg Arg Thr Val Asn Ala Leu Glu Ile Glu Leu Gln Ala
275 280 285
Gln His Asn Leu Arg Tyr Ser Leu Glu Asn Thr Leu Thr Glu Ser Glu
290 295 300
Ala Arg Tyr Ser Ser Gln Leu Ser Gln Val Gln Ser Leu Ile Thr Asn
305 310 315 320
Val Glu Ser Gln Leu Ala Glu Ile Arg Ser Asp Leu Glu Arg Gln Asn
325 330 335
Gln Glu Tyr Gln Val Leu Leu Asp Val Arg Ala Arg Leu Glu Cys Glu
340 345 350
Ile Asn Thr Tyr Arg Ser Leu Leu Glu Ser Glu Asp Cys Lys Leu Pro
355 360 365
Ser Asn Pro Cys Ala Thr Thr Asn Ala Cys Glu Lys Pro Ile Gly Ser
370 375 380
Cys Val Thr Asn Pro Cys Gly Pro Arg Ser Arg Cys Gly Pro Cys Asn
385 390 395 400
Thr Phe Gly Tyr

<210> 427

<211> 436

<212> PRT

<213> Homo sapiens

<400> 427
Met Leu Tyr Ala Lys Pro Pro Pro Thr Ile Asn Gly Ile Lys Gly Leu
1 5 10 15
Gln Arg Lys Glu Arg Leu Lys Pro Ala His Ile His Leu Gln Gln Leu
20 25 30
Thr Cys Phe Ser Ile Thr Cys Ser Ser Thr Met Ser Tyr Ser Cys Cys
35 40 45
Leu Pro Ser Leu Gly Cys Arg Thr Ser Cys Ser Ser Arg Pro Cys Val
50 55 60
Pro Pro Ser Cys His Gly Tyr Thr Leu Pro Gly Ala Cys Asn Ile Pro
65 70 75 80
Ala Asn Val Ser Asn Cys Asn Trp Phe Cys Glu Gly Ser Phe Asn Gly
85 90 95
Ser Glu Lys Glu Thr Met Gln Phe Leu Asn Asp Arg Leu Ala Ser Tyr
100 105 110
Leu Glu Lys Val Arg Gln Leu Glu Arg Asp Asn Ala Glu Leu Glu Lys
115 120 125
Leu Ile Gln Glu Arg Ser Gln Gln Gln Glu Pro Leu Leu Cys Pro Ser
130 135 140
Tyr Gln Ser Tyr Phe Lys Thr Ile Glu Glu Leu Gln Gln Lys Ile Leu
145 150 155 160
Cys Ala Lys Ala Glu Asn Ala Arg Leu Val Val Asn Ile Asp Asn Ala
165 170 175
Lys Leu Ala Ser Asp Asp Phe Arg Ser Lys Tyr Gln Thr Glu Gln Ser
180 185 190
Leu Arg Leu Leu Val Glu Ser Asp Ile Asn Ser Ile Arg Arg Ile Leu
195 200 205
Asp Glu Leu Thr Leu Cys Lys Ser Asp Leu Glu Ser Gln Val Glu Ser
210 215 220
Leu Arg Glu Glu Leu Ile Cys Leu Lys Lys Asn His Glu Glu Glu Val
225 230 235 240

```
Asn Thr Leu Arg Ser Gln Leu Gly Asp Arg Leu Asn Val Glu Val Asp
                245                 250                 255
Thr Ala Pro Thr Val Asp Leu Asn Gln Val Leu Asn Glu Thr Arg Ser
            260                 265                 270
Gln Tyr Glu Ala Leu Val Glu Ile Asn Arg Arg Glu Val Glu Gln Trp
        275                 280                 285
Phe Ala Thr Gln Thr Glu Glu Leu Asn Lys Gln Val Val Ser Ser Ser
    290                 295                 300
Glu Gln Leu Gln Ser Cys Gln Ala Glu Ile Ile Glu Leu Arg Arg Thr
305                 310                 315                 320
Val Asn Ala Leu Glu Ile Glu Leu Gln Ala Gln His Asn Leu Arg Asp
                325                 330                 335
Ser Leu Glu Asn Thr Leu Thr Glu Ser Glu Ala His Tyr Ser Ser Gln
            340                 345                 350
Leu Ser Gln Val Gln Ser Leu Ile Thr Asn Val Glu Ser Gln Leu Ala
        355                 360                 365
Glu Ile Arg Cys Asp Leu Glu Arg Gln Asn Gln Glu Tyr Gln Val Leu
    370                 375                 380
Leu Asp Val Arg Ala Arg Leu Glu Cys Glu Ile Asn Thr Tyr Arg Ser
385                 390                 395                 400
Leu Leu Glu Ser Glu Asp Cys Lys Leu Pro Cys Asn Pro Cys Ala Thr
                405                 410                 415
Thr Asn Ala Ser Gly Asn Ser Cys Gly Pro Cys Gly Thr Ser Gln Lys
            420                 425                 430
Gly Cys Cys Asn
        435
<210>  428

<211>  416

<212>  PRT

<213>  Homo sapiens


<400>  428
Met Pro Tyr Asn Phe Cys Leu Pro Ser Leu Ser Cys Arg Thr Ser Cys
1                   5                   10                  15
Ser Ser Arg Pro Cys Val Pro Pro Ser Cys His Ser Cys Thr Leu Pro
            20                  25                  30
Gly Ala Cys Asn Ile Pro Ala Asn Val Ser Asn Cys Asn Trp Phe Cys
        35                  40                  45
Glu Gly Ser Phe Asn Gly Ser Glu Lys Glu Thr Met Gln Phe Leu Asn
    50                  55                  60
Asp Arg Leu Ala Ser Tyr Leu Glu Lys Val Arg Gln Leu Glu Arg Asp
65                  70                  75                  80
Asn Ala Glu Leu Glu Asn Leu Ile Arg Glu Arg Ser Gln Gln Gln Glu
                85                  90                  95
Pro Leu Leu Cys Pro Ser Tyr Gln Ser Tyr Phe Lys Thr Ile Glu Glu
            100                 105                 110
Leu Gln Gln Lys Ile Leu Cys Thr Lys Ser Glu Asn Ala Arg Leu Val
        115                 120                 125
Val Gln Ile Asp Asn Ala Lys Leu Ala Ala Asp Asp Phe Arg Thr Lys
    130                 135                 140
Tyr Gln Thr Glu Leu Ser Leu Arg Gln Leu Val Glu Ser Asp Ile Asn
145                 150                 155                 160
Gly Leu Arg Arg Ile Leu Asp Glu Leu Thr Leu Cys Lys Ser Asp Leu
                165                 170                 175
Glu Ala Gln Val Glu Ser Leu Lys Glu Glu Leu Leu Cys Leu Lys Ser
            180                 185                 190
Asn His Glu Gln Glu Val Asn Thr Leu Arg Cys Gln Leu Gly Asp Arg
        195                 200                 205
Leu Asn Val Glu Val Asp Ala Ala Pro Thr Val Asp Leu Asn Arg Val
    210                 215                 220
```

```
Leu Asn Glu Thr Arg Ser Gln Tyr Glu Ala Leu Val Glu Thr Asn Arg
225                 230                 235                 240
Arg Glu Val Glu Gln Trp Phe Thr Thr Gln Thr Glu Glu Leu Asn Lys
                245                 250                 255
Gln Val Val Ser Ser Ser Glu Gln Leu Gln Ser Tyr Gln Ala Glu Ile
            260                 265                 270
Ile Glu Leu Arg Arg Thr Val Asn Ala Leu Glu Ile Glu Leu Gln Ala
        275                 280                 285
Gln His Asn Leu Arg Asp Ser Leu Glu Asn Thr Leu Thr Glu Ser Glu
    290                 295                 300
Ala Arg Tyr Ser Ser Gln Leu Ser Gln Val Gln Ser Leu Ile Thr Asn
305                 310                 315                 320
Val Glu Ser Gln Leu Ala Glu Ile Arg Ser Asp Leu Glu Arg Gln Asn
                325                 330                 335
Gln Glu Tyr Gln Val Leu Leu Asp Val Arg Ala Arg Leu Glu Cys Glu
            340                 345                 350
Ile Asn Thr Tyr Arg Ser Leu Leu Glu Ser Glu Asp Cys Asn Leu Pro
        355                 360                 365
Ser Asn Pro Cys Ala Thr Thr Asn Ala Cys Ser Lys Pro Ile Gly Pro
    370                 375                 380
Cys Leu Ser Asn Pro Cys Thr Ser Cys Val Pro Pro Ala Pro Cys Thr
385                 390                 395                 400
Pro Cys Ala Pro Arg Pro Arg Cys Gly Pro Cys Asn Ser Phe Val Arg
                405                 410                 415
<210>  429

<211>  201

<212>  PRT

<213>  Homo sapiens


<400>  429
Met Thr Ser Asp His Cys Ser Ser Leu Leu Ser Gly Gln Val Ser Glu
1                   5                   10                  15
Ala Asn Ala Ala Ser Leu Cys Leu Leu Ala Asn Val Ala His Ala Asn
            20                  25                  30
Arg Val Arg Val Gly Ser Thr Pro Leu Gly Arg Leu Ser Leu Cys Leu
        35                  40                  45
Pro Pro Thr Cys His Thr Thr Cys Pro Leu Pro Gly Thr Cys His Ile
    50                  55                  60
Pro Gly Asn Ile Gly Ile Cys Gly Ala Tyr Arg Glu Asn Thr Leu Asn
65                  70                  75                  80
Gly His Glu Lys Glu Thr Met Gln Phe Leu Asn Asp Arg Leu Ala Asn
                85                  90                  95
Tyr Leu Glu Lys Val Arg Gln Leu Glu Trp Asp Asn Ala Glu Leu Glu
            100                 105                 110
Thr Lys Leu His Glu Arg Ser Lys Cys His Glu Ser Ser Val Cys Arg
        115                 120                 125
Asn Tyr Gln Ser Tyr Phe Cys Thr Ile Gln Glu Leu Gln Gln Lys Val
    130                 135                 140
Arg Phe Ala Val His Gln Ile Arg Gly Gln Glu Ser Ala Tyr Cys Leu
145                 150                 155                 160
Ser Ala Lys Ser Gly Pro Pro Pro Ala Phe Ala Asn Lys Val Leu Leu
                165                 170                 175
Val His Gly His Ala His Ala Phe Val Cys Cys Leu Gln Leu Leu Leu
            180                 185                 190
Tyr Tyr Ser Gly Arg Val Gln Ser Leu
        195                 200
<210>  430

<211>  471

<212>  PRT
```

<213> Homo sapiens

<400> 430

```
Met Thr Ser Phe Tyr Ser Thr Ser Ser Cys Pro Leu Gly Cys Thr Met
1               5                  10                  15
Ala Pro Gly Ala Arg Asn Val Phe Val Ser Pro Ile Asp Val Gly Cys
            20                  25                  30
Gln Pro Val Ala Glu Ala Asn Ala Ala Ser Met Cys Leu Leu Ala Asn
        35                  40                  45
Val Ala His Ala Asn Arg Val Arg Val Gly Ser Thr Pro Leu Gly Arg
    50                  55                  60
Pro Ser Leu Cys Leu Pro Pro Thr Ser His Thr Ala Cys Pro Leu Pro
65                  70                  75                  80
Gly Thr Cys His Ile Pro Gly Asn Ile Gly Ile Cys Gly Ala Tyr Gly
                85                  90                  95
Lys Asn Thr Leu Asn Gly His Glu Lys Glu Thr Met Lys Phe Leu Asn
            100                 105                 110
Asp Arg Leu Ala Asn Tyr Leu Glu Lys Val Arg Gln Leu Glu Gln Glu
        115                 120                 125
Asn Ala Glu Leu Glu Thr Thr Leu Leu Glu Arg Ser Lys Cys His Glu
    130                 135                 140
Ser Thr Val Cys Pro Asp Tyr Gln Ser Tyr Phe Arg Thr Ile Glu Glu
145                 150                 155                 160
Leu Gln Gln Lys Ile Leu Cys Ser Lys Ala Glu Asn Ala Arg Leu Ile
                165                 170                 175
Val Gln Ile Asp Asn Ala Lys Leu Ala Ala Asp Asp Phe Arg Ile Lys
            180                 185                 190
Leu Glu Ser Glu Arg Ser Leu His Gln Leu Val Glu Ala Asp Lys Cys
        195                 200                 205
Gly Thr Gln Lys Leu Leu Asp Asp Ala Thr Leu Ala Lys Ala Asp Leu
    210                 215                 220
Glu Ala Gln Gln Glu Ser Leu Lys Glu Glu Gln Leu Ser Leu Lys Ser
225                 230                 235                 240
Asn His Glu Gln Glu Val Lys Ile Leu Arg Ser Gln Leu Gly Glu Lys
                245                 250                 255
Phe Arg Ile Glu Leu Asp Ile Glu Pro Thr Ile Asp Leu Asn Arg Val
            260                 265                 270
Leu Gly Glu Met Arg Ala Gln Tyr Glu Ala Met Val Glu Thr Asn His
        275                 280                 285
Gln Asp Val Glu Gln Trp Phe Gln Ala Gln Ser Glu Gly Ile Ser Leu
    290                 295                 300
Gln Ala Met Ser Cys Ser Glu Glu Leu Gln Cys Cys Gln Ser Glu Ile
305                 310                 315                 320
Leu Glu Leu Arg Cys Thr Val Asn Ala Leu Glu Val Glu Arg Gln Ala
                325                 330                 335
Gln His Thr Leu Lys Asp Cys Leu Gln Asn Ser Leu Cys Glu Ala Glu
            340                 345                 350
Asp Arg Tyr Gly Thr Glu Leu Ala Gln Met Gln Ser Leu Ile Ser Asn
        355                 360                 365
Leu Glu Glu Gln Leu Ser Glu Ile Arg Ala Asp Leu Glu Arg Gln Asn
    370                 375                 380
Gln Glu Tyr Gln Val Leu Leu Asp Val Lys Ala Arg Leu Glu Asn Glu
385                 390                 395                 400
Ile Ala Thr Tyr Arg Asn Leu Thr Pro Leu Gln Ser Leu Phe His Ala
                405                 410                 415
Cys Leu Leu Tyr Phe Leu Ser Lys Leu Trp Pro Cys His Arg Trp Val
            420                 425                 430
Ser Leu Trp Pro Trp Ser Gln His Gly Glu Met Ile Leu Lys Ala Arg
        435                 440                 445
Val Arg Arg Leu Arg Leu Val Ala Leu Gly Ser Gly Val Pro Ser Pro
    450                 455                 460
Cys Pro Val Phe Leu Gln Asp
465                 470
```

<210> 431

<211> 456

<212> PRT

<213> Homo sapiens

<400> 431

```
Met Thr Ser Ser Tyr Ser Ser Ser Ser Cys Pro Leu Gly Cys Thr Met
1               5                  10                  15
Ala Pro Gly Ala Arg Asn Val Ser Val Ser Pro Ile Asp Ile Gly Cys
            20                  25                  30
Gln Pro Gly Ala Glu Ala Asn Ile Ala Pro Met Cys Leu Leu Ala Asn
        35                  40                  45
Val Ala His Ala Asn Arg Val Arg Val Gly Ser Thr Pro Leu Gly Arg
    50                  55                  60
Pro Ser Leu Cys Leu Pro Pro Thr Cys His Thr Ala Cys Pro Leu Pro
65                  70                  75                  80
Gly Thr Cys His Ile Pro Gly Asn Ile Gly Ile Cys Gly Ala Tyr Gly
                85                  90                  95
Glu Asn Thr Leu Asn Gly His Glu Lys Glu Thr Met Gln Phe Leu Asn
            100                 105                 110
Asp Arg Leu Ala Asn Tyr Leu Glu Lys Val Arg Gln Leu Glu Gln Glu
        115                 120                 125
Asn Ala Glu Leu Glu Ala Thr Leu Leu Glu Arg Ser Lys Cys His Glu
    130                 135                 140
Ser Thr Val Cys Pro Asp Tyr Gln Ser Tyr Phe His Thr Ile Glu Glu
145                 150                 155                 160
Leu Gln Gln Lys Ile Leu Cys Ser Lys Ala Glu Asn Ala Arg Leu Ile
                165                 170                 175
Val Gln Ile Asp Asn Ala Lys Leu Ala Ala Asp Asp Phe Arg Ile Lys
            180                 185                 190
Leu Glu Ser Glu Arg Ser Leu Arg Gln Leu Val Glu Ala Asp Lys Cys
        195                 200                 205
Gly Thr Gln Lys Leu Leu Asp Asp Ala Thr Leu Ala Lys Ala Asp Leu
    210                 215                 220
Glu Ala Gln Gln Glu Ser Leu Lys Glu Glu Gln Leu Ser Leu Lys Ser
225                 230                 235                 240
Asn His Glu Gln Glu Val Lys Ile Leu Arg Ser Gln Leu Gly Glu Lys
                245                 250                 255
Leu Arg Ile Glu Leu Asp Ile Glu Pro Thr Ile Asp Leu Asn Arg Val
            260                 265                 270
Leu Gly Glu Met Arg Ala Gln Tyr Glu Ala Met Leu Glu Thr Asn Arg
        275                 280                 285
Gln Asp Val Glu Gln Trp Phe Gln Ala Gln Ser Glu Gly Ile Ser Leu
    290                 295                 300
Gln Asp Met Ser Cys Ser Glu Glu Leu Gln Cys Cys Gln Ser Glu Ile
305                 310                 315                 320
Leu Glu Leu Arg Cys Thr Val Asn Ala Leu Glu Val Glu Arg Gln Ala
                325                 330                 335
Gln His Thr Leu Lys Asp Cys Leu Gln Asn Ser Leu Cys Glu Ala Glu
            340                 345                 350
Asp Arg Phe Gly Thr Glu Leu Ala Gln Met Gln Ser Leu Ile Ser Asn
        355                 360                 365
Val Glu Glu Gln Leu Ser Glu Ile Arg Ala Asp Leu Glu Arg Gln Asn
    370                 375                 380
Gln Glu Tyr Gln Val Leu Leu Asp Val Lys Thr Arg Leu Glu Asn Glu
385                 390                 395                 400
Ile Ala Thr Tyr Arg Asn Leu Leu Glu Ser Glu Asp Cys Lys Leu Pro
                405                 410                 415
Cys Asn Pro Cys Ser Thr Ser Pro Ser Cys Val Thr Ala Pro Cys Ala
            420                 425                 430
```

Pro Arg Pro Ser Cys Gly Pro Cys Thr Thr Cys Gly Pro Thr Cys Gly
435 440 445
Ala Ser Thr Thr Gly Ser Arg Phe
450 455
<210> 432

<211> 448

<212> PRT

<213> Homo sapiens

<400> 432
Met Thr Ser Ser Cys Cys Val Thr Asn Asn Leu Gln Ala Ser Leu Lys
1 5 10 15
Ser Cys Pro Arg Pro Ala Ser Val Cys Ser Ser Gly Val Asn Cys Arg
20 25 30
Pro Glu Leu Cys Leu Gly Tyr Val Cys Gln Pro Met Ala Cys Leu Pro
35 40 45
Ser Val Cys Leu Pro Thr Thr Phe Arg Pro Ala Ser Cys Leu Ser Lys
50 55 60
Thr Tyr Leu Ser Ser Ser Cys Gln Ala Ala Ser Gly Ile Ser Gly Ser
65 70 75 80
Met Gly Pro Gly Ser Trp Tyr Ser Glu Gly Ala Phe Asn Gly Asn Glu
85 90 95
Lys Glu Thr Met Gln Phe Leu Asn Asp Arg Leu Ala Ser Tyr Leu Thr
100 105 110
Arg Val Arg Gln Leu Glu Gln Glu Asn Ala Glu Leu Glu Ser Arg Ile
115 120 125
Gln Glu Ala Ser His Ser Gln Val Leu Thr Met Thr Pro Asp Tyr Gln
130 135 140
Ser His Phe Arg Thr Ile Glu Glu Leu Gln Gln Lys Ile Leu Cys Thr
145 150 155 160
Lys Ala Glu Asn Ala Arg Met Val Val Asn Ile Asp Asn Ala Lys Leu
165 170 175
Ala Ala Asp Asp Phe Arg Ala Lys Tyr Glu Ala Glu Leu Ala Met Arg
180 185 190
Gln Leu Val Glu Ala Asp Ile Asn Gly Leu Arg Arg Ile Leu Asp Asp
195 200 205
Leu Thr Leu Cys Lys Ala Asp Leu Glu Ala Gln Val Glu Ser Leu Lys
210 215 220
Glu Glu Leu Met Cys Leu Lys Lys Asn His Glu Glu Glu Val Gly Ser
225 230 235 240
Leu Arg Cys Gln Leu Gly Asp Arg Leu Asn Ile Glu Val Asp Ala Ala
245 250 255
Pro Pro Val Asp Leu Thr Arg Val Leu Glu Glu Met Arg Cys Gln Tyr
260 265 270
Glu Ala Met Val Glu Ala Asn Arg Arg Asp Val Glu Glu Trp Phe Asn
275 280 285
Met Gln Met Glu Glu Leu Asn Gln Gln Val Ala Thr Ser Ser Glu Gln
290 295 300
Leu Gln Asn Tyr Gln Ser Asp Ile Ile Asp Leu Arg Arg Thr Val Asn
305 310 315 320
Thr Leu Glu Ile Glu Leu Gln Ala Gln His Ser Leu Arg Asp Ser Leu
325 330 335
Glu Asn Thr Leu Thr Glu Ser Glu Ala Arg Tyr Ser Ser Gln Leu Ala
340 345 350
Gln Met Gln Cys Met Ile Thr Asn Val Glu Ala Gln Leu Ala Glu Ile
355 360 365
Arg Ala Asp Leu Glu Arg Gln Asn Gln Glu Tyr Gln Val Leu Leu Asp
370 375 380
Val Arg Ala Arg Leu Glu Gly Glu Ile Asn Thr Tyr Arg Ser Leu Leu
385 390 395 400

Glu Ser Glu Asp Cys Lys Leu Pro Cys Asn Pro Cys Ser Thr Pro Ser
405 410 415
Cys Thr Thr Cys Val Pro Ser Pro Cys Val Thr Arg Thr Val Cys Val
420 425 430
Pro Arg Thr Val Gly Met Pro Cys Ser Pro Cys Pro Gln Gly Arg Tyr
435 440 445

<210> 433

<211> 425

<212> PRT

<213> Homo sapiens

<400> 433
Met Tyr Ser Ser Ser Ser Cys Lys Leu Pro Ser Leu Ser Pro Val Ala
1 5 10 15
Arg Ser Phe Ser Ala Cys Ser Val Gly Leu Gly Arg Ser Ser Tyr Arg
20 25 30
Ala Thr Ser Cys Leu Pro Ala Leu Cys Leu Pro Ala Gly Gly Phe Ala
35 40 45
Thr Ser Tyr Ser Gly Gly Gly Gly Trp Phe Gly Glu Gly Ile Leu Thr
50 55 60
Gly Asn Glu Lys Glu Thr Met Gln Ser Leu Asn Asp Arg Leu Ala Gly
65 70 75 80
Tyr Leu Glu Lys Val Arg Gln Leu Glu Gln Glu Asn Ala Ser Leu Glu
85 90 95
Ser Arg Ile Arg Glu Trp Cys Glu Gln Gln Val Pro Tyr Met Cys Pro
100 105 110
Asp Tyr Gln Ser Tyr Phe Arg Thr Ile Glu Glu Leu Gln Lys Lys Thr
115 120 125
Leu Cys Ser Lys Ala Glu Asn Ala Arg Leu Val Val Glu Ile Asp Asn
130 135 140
Ala Lys Leu Ala Ala Asp Asp Phe Arg Thr Lys Tyr Glu Thr Glu Val
145 150 155 160
Ser Leu Arg Gln Leu Val Glu Ser Asp Ile Asn Gly Leu Arg Arg Ile
165 170 175
Leu Asp Asp Leu Thr Leu Cys Lys Ser Asp Leu Glu Ala Gln Val Glu
180 185 190
Ser Leu Lys Glu Glu Leu Leu Cys Leu Lys Lys Asn His Glu Glu Glu
195 200 205
Val Asn Ser Leu Arg Cys Gln Leu Gly Asp Arg Leu Asn Val Glu Val
210 215 220
Asp Ala Ala Pro Pro Val Asp Leu Asn Arg Val Leu Glu Glu Met Arg
225 230 235 240
Cys Gln Tyr Glu Thr Leu Val Glu Asn Asn Arg Arg Asp Ala Glu Asp
245 250 255
Trp Leu Asp Thr Gln Ser Glu Glu Leu Asn Gln Gln Val Val Ser Ser
260 265 270
Ser Glu Gln Leu Gln Ser Cys Gln Ala Glu Ile Ile Glu Leu Arg Arg
275 280 285
Thr Val Asn Ala Leu Glu Ile Glu Leu Gln Ala Gln His Ser Met Arg
290 295 300
Asp Ala Leu Glu Ser Thr Leu Ala Glu Thr Glu Ala Arg Tyr Ser Ser
305 310 315 320
Gln Leu Ala Gln Met Gln Cys Met Ile Thr Asn Val Glu Ala Gln Leu
325 330 335
Ala Glu Ile Arg Ala Asp Leu Glu Arg Gln Asn Gln Glu Tyr Gln Val
340 345 350
Leu Leu Asp Val Arg Ala Arg Leu Glu Cys Glu Ile Asn Thr Tyr Arg
355 360 365
Gly Leu Leu Glu Ser Glu Asp Ser Lys Leu Pro Cys Asn Pro Cys Ala
370 375 380

```
Pro Asp Tyr Ser Pro Ser Lys Ser Cys Leu Pro Cys Leu Pro Ala Ala
385                 390                 395                 400
Ser Cys Gly Pro Ser Ala Ala Arg Thr Asn Cys Ser Pro Arg Pro Ile
                405                 410                 415
Cys Val Pro Cys Pro Gly Gly Arg Phe
            420                 425
```

<210> 434

<211> 467

<212> PRT

<213> Homo sapiens

<400> 434

```
Met Ala Thr Gln Thr Cys Thr Pro Thr Phe Ser Thr Gly Ser Ile Lys
1               5                   10                  15
Gly Leu Cys Gly Thr Ala Gly Gly Ile Ser Arg Val Ser Ser Ile Arg
            20                  25                  30
Ser Val Gly Ser Cys Arg Val Pro Ser Leu Ala Gly Ala Ala Gly Tyr
        35                  40                  45
Ile Ser Ser Ala Arg Ser Gly Leu Ser Gly Leu Gly Ser Cys Leu Pro
    50                  55                  60
Gly Ser Tyr Leu Ser Ser Glu Cys His Thr Ser Gly Phe Val Gly Ser
65                  70                  75                  80
Gly Gly Trp Phe Cys Glu Gly Ser Phe Asn Gly Ser Glu Lys Glu Thr
                85                  90                  95
Met Gln Phe Leu Asn Asp Arg Leu Ala Asn Tyr Leu Glu Lys Val Arg
            100                 105                 110
Gln Leu Glu Arg Glu Asn Ala Glu Leu Glu Ser Arg Ile Gln Glu Trp
        115                 120                 125
Tyr Glu Phe Gln Ile Pro Tyr Ile Cys Pro Asp Tyr Gln Ser Tyr Phe
    130                 135                 140
Lys Thr Ile Glu Asp Phe Gln Gln Lys Ile Leu Leu Thr Lys Ser Glu
145                 150                 155                 160
Asn Ala Arg Leu Val Leu Gln Ile Asp Asn Ala Lys Leu Ala Ala Asp
                165                 170                 175
Asp Phe Arg Thr Lys Tyr Glu Thr Glu Leu Ser Leu Arg Gln Leu Val
            180                 185                 190
Glu Ala Asp Ile Asn Gly Leu Arg Arg Ile Leu Asp Glu Leu Thr Leu
        195                 200                 205
Cys Lys Ala Asp Leu Glu Ala Gln Val Glu Ser Leu Lys Glu Glu Leu
    210                 215                 220
Met Cys Leu Lys Lys Asn His Glu Glu Glu Val Ser Val Leu Arg Cys
225                 230                 235                 240
Gln Leu Gly Asp Arg Leu Asn Val Glu Val Asp Ala Ala Pro Pro Val
                245                 250                 255
Asp Leu Asn Lys Ile Leu Glu Asp Met Arg Cys Gln Tyr Glu Ala Leu
            260                 265                 270
Val Glu Asn Asn Arg Arg Asp Val Glu Ala Trp Phe Asn Thr Gln Thr
        275                 280                 285
Glu Glu Leu Asn Gln Gln Val Val Ser Ser Ser Glu Gln Leu Gln Cys
    290                 295                 300
Cys Gln Thr Glu Ile Ile Glu Leu Arg Arg Thr Val Asn Ala Leu Glu
305                 310                 315                 320
Ile Glu Leu Gln Ala Gln His Ser Met Arg Asn Ser Leu Glu Ser Thr
                325                 330                 335
Leu Ala Glu Thr Glu Ala Arg Tyr Ser Ser Gln Leu Ala Gln Met Gln
            340                 345                 350
Cys Leu Ile Ser Asn Val Glu Ala Gln Leu Ser Glu Ile Arg Cys Asp
        355                 360                 365
Leu Glu Arg Gln Asn Gln Glu Tyr Gln Val Leu Leu Asp Val Lys Ala
    370                 375                 380
```

```
Arg Leu Glu Gly Glu Ile Ala Thr Tyr Arg His Leu Leu Glu Gly Glu
385                 390                 395                 400
Asp Cys Lys Leu Pro Pro Gln Pro Cys Ala Thr Ala Cys Lys Pro Val
                405                 410                 415
Ile Arg Val Pro Ser Val Pro Pro Val Pro Cys Val Pro Ser Val Pro
            420                 425                 430
Cys Thr Pro Ala Pro Gln Val Gly Thr Gln Ile Arg Thr Ile Thr Glu
        435                 440                 445
Glu Ile Arg Asp Gly Lys Val Ile Ser Ser Arg Glu His Val Gln Ser
    450                 455                 460
Arg Pro Leu
465
<210>  435

<211>  420

<212>  PRT

<213>  Homo sapiens


<400>  435
Met Ser Leu Arg Leu Gln Ser Ser Ser Ala Ser Tyr Gly Gly Gly Phe
1               5                   10                  15
Gly Gly Gly Ser Cys Gln Leu Gly Gly Gly Arg Gly Val Ser Thr Cys
            20                  25                  30
Ser Thr Arg Phe Val Ser Gly Gly Ser Ala Gly Gly Tyr Gly Gly Gly
        35                  40                  45
Val Ser Cys Gly Phe Gly Gly Gly Ala Gly Ser Gly Phe Gly Gly Gly
    50                  55                  60
Tyr Gly Gly Gly Leu Gly Gly Gly Tyr Gly Gly Gly Leu Gly Gly Gly
65                  70                  75                  80
Phe Gly Gly Gly Phe Ala Gly Gly Phe Val Asp Phe Gly Ala Cys Asp
                85                  90                  95
Gly Gly Leu Leu Thr Gly Asn Glu Lys Ile Thr Met Gln Asn Leu Asn
            100                 105                 110
Asp Arg Leu Ala Ser Tyr Leu Glu Lys Val Arg Ala Leu Glu Glu Ala
        115                 120                 125
Asn Ala Asp Leu Glu Val Lys Ile Arg Asp Trp His Leu Lys Gln Ser
    130                 135                 140
Pro Ala Ser Pro Glu Arg Asp Tyr Ser Pro Tyr Tyr Lys Thr Ile Glu
145                 150                 155                 160
Glu Leu Arg Asp Lys Ile Leu Thr Ala Thr Ile Glu Asn Asn Arg Val
                165                 170                 175
Ile Leu Glu Ile Asp Asn Ala Arg Leu Ala Val Asp Asp Phe Arg Leu
            180                 185                 190
Lys Tyr Glu Asn Glu Leu Ala Leu Arg Gln Ser Val Glu Ala Asp Ile
        195                 200                 205
Asn Gly Leu Arg Arg Val Leu Asp Glu Leu Thr Leu Ser Lys Thr Asp
    210                 215                 220
Leu Glu Met Gln Ile Glu Ser Leu Asn Glu Glu Leu Ala Tyr Met Lys
225                 230                 235                 240
Lys Asn His Glu Glu Glu Met Lys Glu Phe Ser Asn Gln Val Val Gly
                245                 250                 255
Gln Val Asn Val Glu Met Asp Ala Thr Pro Gly Ile Asp Leu Thr Arg
            260                 265                 270
Val Leu Ala Glu Met Arg Glu Gln Tyr Glu Ala Met Ala Glu Arg Asn
        275                 280                 285
Arg Arg Asp Ala Glu Glu Trp Phe His Ala Lys Ser Ala Glu Leu Asn
    290                 295                 300
Lys Glu Val Ser Thr Asn Thr Ala Met Ile Gln Thr Ser Lys Thr Glu
305                 310                 315                 320
Ile Thr Glu Leu Arg Arg Thr Leu Gln Gly Leu Glu Ile Glu Leu Gln
                325                 330                 335
```

Ser Gln Leu Ser Met Lys Ala Gly Leu Glu Asn Thr Val Ala Glu Thr
340 345 350
Glu Cys Arg Tyr Ala Leu Gln Leu Gln Gln Ile Gln Gly Leu Ile Ser
355 360 365
Ser Ile Glu Ala Gln Leu Ser Glu Leu Arg Ser Glu Met Glu Cys Gln
370 375 380
Asn Gln Glu Tyr Lys Met Leu Leu Asp Ile Lys Thr Arg Leu Glu Gln
385 390 395 400
Glu Ile Ala Thr Tyr Arg Ser Leu Leu Glu Gly Gln Asp Ala Lys Lys
405 410 415
Arg Gln Pro Pro
420

<210> 436

<211> 456

<212> PRT

<213> Homo sapiens

<400> 436
Met Thr Thr Thr Phe Leu Gln Thr Ser Ser Ser Thr Phe Gly Gly Gly
1 5 10 15
Ser Thr Arg Gly Gly Ser Leu Leu Ala Gly Gly Gly Gly Phe Gly Gly
20 25 30
Gly Ser Leu Ser Gly Gly Gly Gly Ser Arg Ser Ile Ser Ala Ser Ser
35 40 45
Ala Arg Phe Val Ser Ser Gly Ser Gly Gly Gly Tyr Gly Gly Gly Met
50 55 60
Arg Val Cys Gly Phe Gly Gly Gly Ala Gly Ser Val Phe Gly Gly Gly
65 70 75 80
Phe Gly Gly Gly Val Gly Gly Gly Phe Gly Gly Gly Phe Gly Gly Gly
85 90 95
Asp Gly Gly Leu Leu Ser Gly Asn Glu Lys Ile Thr Met Gln Asn Leu
100 105 110
Asn Asp Arg Leu Ala Ser Tyr Leu Asp Lys Val Arg Ala Leu Glu Glu
115 120 125
Ala Asn Ala Asp Leu Glu Val Lys Ile His Asp Trp Tyr Gln Lys Gln
130 135 140
Thr Pro Thr Ser Pro Glu Cys Asp Tyr Ser Gln Tyr Phe Lys Thr Ile
145 150 155 160
Glu Glu Leu Arg Asp Lys Ile Met Ala Thr Thr Ile Asp Asn Ser Arg
165 170 175
Val Ile Leu Glu Ile Asp Asn Ala Arg Leu Ala Ala Asp Asp Phe Arg
180 185 190
Leu Lys Tyr Glu Asn Glu Leu Ala Leu Arg Gln Gly Val Glu Ala Asp
195 200 205
Ile Asn Gly Leu Arg Arg Val Leu Asp Glu Leu Thr Leu Ala Arg Thr
210 215 220
Asp Leu Glu Met Gln Ile Glu Gly Leu Asn Glu Glu Leu Ala Tyr Leu
225 230 235 240
Lys Lys Asn His Glu Glu Glu Met Lys Glu Phe Ser Ser Gln Leu Ala
245 250 255
Gly Gln Val Asn Val Glu Met Asp Ala Ala Pro Gly Val Asp Leu Thr
260 265 270
Arg Val Leu Ala Glu Met Arg Glu Gln Tyr Glu Ala Met Ala Glu Lys
275 280 285
Asn Arg Arg Asp Val Glu Ala Trp Phe Phe Ser Lys Thr Glu Glu Leu
290 295 300
Asn Lys Glu Val Ala Ser Asn Thr Glu Met Ile Gln Thr Ser Lys Thr
305 310 315 320
Glu Ile Thr Asp Leu Arg Arg Thr Met Gln Glu Leu Glu Ile Glu Leu
325 330 335

Gln Ser Gln Leu Ser Met Lys Ala Gly Leu Glu Asn Ser Leu Ala Glu
340 345 350
Thr Glu Cys Arg Tyr Ala Thr Gln Leu Gln Gln Ile Gln Gly Leu Ile
355 360 365
Gly Gly Leu Glu Ala Gln Leu Ser Glu Leu Arg Cys Glu Met Glu Ala
370 375 380
Gln Asn Gln Glu Tyr Lys Met Leu Leu Asp Ile Lys Thr Arg Leu Glu
385 390 395 400
Gln Glu Ile Ala Thr Tyr Arg Ser Leu Leu Glu Gly Gln Asp Ala Lys
405 410 415
Met Ala Gly Ile Gly Ile Arg Glu Ala Ser Ser Gly Gly Gly Gly Ser
420 425 430
Ser Ser Asn Phe His Ile Asn Val Glu Glu Ser Val Asp Gly Gln Val
435 440 445
Val Ser Ser His Lys Arg Glu Ile
450 455

<210> 437

<211> 400

<212> PRT

<213> Homo sapiens

<400> 437
Met Thr Ser Tyr Ser Tyr Arg Gln Ser Ser Ala Thr Ser Ser Phe Gly
1 5 10 15
Gly Leu Gly Gly Gly Ser Val Arg Phe Gly Pro Gly Val Ala Phe Arg
20 25 30
Ala Pro Ser Ile His Gly Gly Ser Gly Gly Arg Gly Val Ser Val Ser
35 40 45
Ser Ala Arg Phe Val Ser Ser Ser Ser Ser Gly Ala Tyr Gly Gly Gly
50 55 60
Tyr Gly Gly Val Leu Thr Ala Ser Asp Gly Leu Leu Ala Gly Asn Glu
65 70 75 80
Lys Leu Thr Met Gln Asn Leu Asn Asp Arg Leu Ala Ser Tyr Leu Asp
85 90 95
Lys Val Arg Ala Leu Glu Ala Ala Asn Gly Glu Leu Glu Val Lys Ile
100 105 110
Arg Asp Trp Tyr Gln Lys Gln Gly Pro Gly Pro Ser Arg Asp Tyr Ser
115 120 125
His Tyr Tyr Thr Thr Ile Gln Asp Leu Arg Asp Lys Ile Leu Gly Ala
130 135 140
Thr Ile Glu Asn Ser Arg Ile Val Leu Gln Ile Asp Asn Ala Arg Leu
145 150 155 160
Ala Ala Asp Asp Phe Arg Thr Lys Phe Glu Thr Glu Gln Ala Leu Arg
165 170 175
Met Ser Val Glu Ala Asp Ile Asn Gly Leu Arg Arg Val Leu Asp Glu
180 185 190
Leu Thr Leu Ala Arg Thr Asp Leu Glu Met Gln Ile Glu Gly Leu Lys
195 200 205
Glu Glu Leu Ala Tyr Leu Lys Lys Asn His Glu Glu Glu Ile Ser Thr
210 215 220
Leu Arg Gly Gln Val Gly Gly Gln Val Ser Val Glu Val Asp Ser Ala
225 230 235 240
Pro Gly Thr Asp Leu Ala Lys Ile Leu Ser Asp Met Arg Ser Gln Tyr
245 250 255
Glu Val Met Ala Glu Gln Asn Arg Lys Asp Ala Glu Ala Trp Phe Thr
260 265 270
Ser Arg Thr Glu Glu Leu Asn Arg Glu Val Ala Gly His Thr Glu Gln
275 280 285
Leu Gln Met Ser Arg Ser Glu Val Thr Asp Leu Arg Arg Thr Leu Gln
290 295 300

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Gly Leu Glu Ile Glu Leu Gln Ser Gln Leu Ser Met Lys Ala Ala Leu
305                 310                 315                 320
Glu Asp Thr Leu Ala Glu Thr Glu Ala Arg Phe Gly Ala Gln Leu Ala
                325                 330                 335
His Ile Gln Ala Leu Ile Ser Gly Ile Glu Ala Gln Leu Gly Asp Val
            340                 345                 350
Arg Ala Asp Ser Glu Arg Gln Asn Gln Glu Tyr Gln Arg Leu Met Asp
        355                 360                 365
Ile Lys Ser Arg Leu Glu Gln Glu Ile Ala Thr Tyr Arg Ser Leu Leu
    370                 375                 380
Glu Gly Gln Glu Asp His Tyr Asn Asn Leu Ser Ala Ser Lys Val Leu
385                 390                 395                 400
<210>  438

<211>  622

<212>  PRT

<213>  Homo sapiens


<400>  438
Met Ser Cys Arg Gln Phe Ser Ser Ser Tyr Leu Thr Ser Gly Gly Gly
1               5                   10                  15
Gly Gly Gly Gly Leu Gly Ser Gly Gly Ser Ile Arg Ser Ser Tyr Ser
            20                  25                  30
Arg Phe Ser Ser Ser Gly Gly Arg Gly Gly Gly Gly Arg Phe Ser Ser
        35                  40                  45
Ser Ser Gly Tyr Gly Gly Gly Ser Ser Arg Val Cys Gly Arg Gly Gly
    50                  55                  60
Gly Gly Ser Phe Gly Tyr Ser Tyr Gly Gly Gly Ser Gly Gly Gly Phe
65                  70                  75                  80
Ser Ala Ser Ser Leu Gly Gly Gly Phe Gly Gly Gly Ser Arg Gly Phe
                85                  90                  95
Gly Gly Ala Ser Gly Gly Gly Tyr Ser Ser Ser Gly Gly Phe Gly Gly
            100                 105                 110
Gly Phe Gly Gly Gly Ser Gly Gly Gly Phe Gly Gly Gly Tyr Gly Ser
        115                 120                 125
Gly Phe Gly Gly Leu Gly Gly Phe Gly Gly Gly Ala Gly Gly Gly Asp
    130                 135                 140
Gly Gly Ile Leu Thr Ala Asn Glu Lys Ser Thr Met Gln Glu Leu Asn
145                 150                 155                 160
Ser Arg Leu Ala Ser Tyr Leu Asp Lys Val Gln Ala Leu Glu Glu Ala
                165                 170                 175
Asn Asn Asp Leu Glu Asn Lys Ile Gln Asp Trp Tyr Asp Lys Lys Gly
            180                 185                 190
Pro Ala Ala Ile Gln Lys Asn Tyr Ser Pro Tyr Tyr Asn Thr Ile Asp
        195                 200                 205
Asp Leu Lys Asp Gln Ile Val Asp Leu Thr Val Gly Asn Asn Lys Thr
    210                 215                 220
Leu Leu Asp Ile Asp Asn Thr Arg Met Thr Leu Asp Asp Phe Arg Ile
225                 230                 235                 240
Lys Phe Glu Met Glu Gln Asn Leu Arg Gln Gly Val Asp Ala Asp Ile
                245                 250                 255
Asn Gly Leu Arg Gln Val Leu Asp Asn Leu Thr Met Glu Lys Ser Asp
            260                 265                 270
Leu Glu Met Gln Tyr Glu Thr Leu Gln Glu Glu Leu Met Ala Leu Lys
        275                 280                 285
Lys Asn His Lys Glu Glu Met Ser Gln Leu Thr Gly Gln Asn Ser Gly
    290                 295                 300
Asp Val Asn Val Glu Ile Asn Val Ala Pro Gly Lys Asp Leu Thr Lys
305                 310                 315                 320
Thr Leu Asn Asp Met Arg Gln Glu Tyr Glu Gln Leu Ile Ala Lys Asn
                325                 330                 335
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```
Arg Lys Asp Ile Glu Asn Gln Tyr Glu Thr Gln Ile Thr Gln Ile Glu
            340                 345                 350
His Glu Val Ser Ser Ser Gly Gln Glu Val Gln Ser Ser Ala Lys Glu
        355                 360                 365
Val Thr Gln Leu Arg His Gly Val Gln Glu Leu Glu Ile Glu Leu Gln
    370                 375                 380
Ser Gln Leu Ser Lys Lys Ala Ala Leu Glu Lys Ser Leu Glu Asp Thr
385                 390                 395                 400
Lys Asn Arg Tyr Cys Gly Gln Leu Gln Met Ile Gln Glu Gln Ile Ser
                405                 410                 415
Asn Leu Glu Ala Gln Ile Thr Asp Val Arg Gln Glu Ile Glu Cys Gln
            420                 425                 430
Asn Gln Glu Tyr Ser Leu Leu Leu Ser Ile Lys Met Arg Leu Glu Lys
        435                 440                 445
Glu Ile Glu Thr Tyr His Asn Leu Leu Glu Gly Gly Gln Glu Asp Phe
    450                 455                 460
Glu Ser Ser Gly Ala Gly Lys Ile Gly Leu Gly Gly Arg Gly Gly Ser
465                 470                 475                 480
Gly Gly Ser Tyr Gly Arg Gly Ser Arg Gly Gly Ser Gly Gly Ser Tyr
                485                 490                 495
Gly Gly Gly Gly Ser Gly Gly Gly Tyr Gly Gly Gly Ser Gly Ser Arg
            500                 505                 510
Gly Gly Ser Gly Gly Ser Tyr Gly Gly Gly Ser Gly Ser Gly Gly Gly
        515                 520                 525
Ser Gly Gly Gly Tyr Gly Gly Gly Ser Gly Gly Gly His Ser Gly Gly
    530                 535                 540
Ser Gly Gly Gly His Ser Gly Gly Ser Gly Gly Asn Tyr Gly Gly Gly
545                 550                 555                 560
Ser Gly Ser Gly Gly Gly Ser Gly Gly Gly Tyr Gly Gly Gly Ser Gly
                565                 570                 575
Ser Arg Gly Gly Ser Gly Gly Ser His Gly Gly Gly Ser Gly Phe Gly
            580                 585                 590
Gly Glu Ser Gly Gly Ser Tyr Gly Gly Gly Glu Glu Ala Ser Gly Ser
        595                 600                 605
Gly Gly Gly Tyr Gly Gly Gly Ser Gly Lys Ser Ser His Ser
    610                 615                 620
<210>  439

<211>  472

<212>  PRT

<213>  Homo sapiens


<400>  439
Met Thr Thr Cys Ser Arg Gln Phe Thr Ser Ser Ser Ser Met Lys Gly
1               5                   10                  15
Ser Cys Gly Ile Gly Gly Gly Ile Gly Gly Gly Ser Ser Arg Ile Ser
            20                  25                  30
Ser Val Leu Ala Gly Gly Ser Cys Arg Ala Pro Ser Thr Tyr Gly Gly
        35                  40                  45
Gly Leu Ser Val Ser Ser Ser Arg Phe Ser Ser Gly Gly Ala Tyr Gly
    50                  55                  60
Leu Gly Gly Gly Tyr Gly Gly Gly Phe Ser Ser Ser Ser Ser Ser Phe
65                  70                  75                  80
Gly Ser Gly Phe Gly Gly Gly Tyr Gly Gly Gly Leu Gly Ala Gly Leu
                85                  90                  95
Gly Gly Gly Phe Gly Gly Gly Phe Ala Gly Gly Asp Gly Leu Leu Val
            100                 105                 110
Gly Ser Glu Lys Val Thr Met Gln Asn Leu Asn Asp Arg Leu Ala Ser
        115                 120                 125
Tyr Leu Asp Lys Val Arg Ala Leu Glu Glu Ala Asn Ala Asp Leu Glu
    130                 135                 140
```

```
Val Lys Ile Arg Asp Trp Tyr Gln Arg Gln Arg Pro Ala Glu Ile Lys
145                 150                 155                 160
Asp Tyr Ser Pro Tyr Phe Lys Thr Ile Glu Asp Leu Arg Asn Lys Ile
                165                 170                 175
Leu Thr Ala Thr Val Asp Asn Ala Asn Val Leu Leu Gln Ile Asp Asn
            180                 185                 190
Ala Arg Leu Ala Ala Asp Asp Phe Arg Thr Lys Tyr Glu Thr Glu Leu
        195                 200                 205
Asn Leu Arg Met Ser Val Glu Ala Asp Ile Asn Gly Leu Arg Arg Val
    210                 215                 220
Leu Asp Glu Leu Thr Leu Ala Arg Ala Asp Leu Glu Met Gln Ile Glu
225                 230                 235                 240
Ser Leu Lys Glu Glu Leu Ala Tyr Leu Lys Lys Asn His Glu Glu Glu
                245                 250                 255
Met Asn Ala Leu Arg Gly Gln Val Gly Gly Asp Val Asn Val Glu Met
            260                 265                 270
Asp Ala Ala Pro Gly Val Asp Leu Ser Arg Ile Leu Asn Glu Met Arg
        275                 280                 285
Asp Gln Tyr Glu Lys Met Ala Glu Lys Asn Arg Lys Asp Ala Glu Glu
    290                 295                 300
Trp Phe Phe Thr Lys Thr Glu Glu Leu Asn Arg Glu Val Ala Thr Asn
305                 310                 315                 320
Ser Glu Leu Val Gln Ser Gly Lys Ser Glu Ile Ser Glu Leu Arg Arg
                325                 330                 335
Thr Met Gln Asn Leu Glu Ile Glu Leu Gln Ser Gln Leu Ser Met Lys
            340                 345                 350
Ala Ser Leu Glu Asn Ser Leu Glu Glu Thr Lys Gly Arg Tyr Cys Met
        355                 360                 365
Gln Leu Ala Gln Ile Gln Glu Met Ile Gly Ser Val Glu Glu Gln Leu
    370                 375                 380
Ala Gln Leu Arg Cys Glu Met Glu Gln Gln Asn Gln Glu Tyr Lys Ile
385                 390                 395                 400
Leu Leu Asp Val Lys Thr Arg Leu Glu Gln Glu Ile Ala Thr Tyr Arg
                405                 410                 415
Arg Leu Leu Glu Gly Glu Asp Ala His Leu Ser Ser Ser Gln Phe Ser
            420                 425                 430
Ser Gly Ser Gln Ser Ser Arg Asp Val Thr Ser Ser Ser Arg Gln Ile
        435                 440                 445
Arg Thr Lys Val Met Asp Val His Asp Gly Lys Val Val Ser Thr His
    450                 455                 460
Glu Gln Val Leu Arg Thr Lys Asn
465                 470
<210>  440

<211>  473

<212>  PRT

<213>  Homo sapiens


<400>  440
Met Thr Thr Cys Ser Arg Gln Phe Thr Ser Ser Ser Ser Met Lys Gly
1                   5                   10                  15
Ser Cys Gly Ile Gly Gly Gly Ile Gly Gly Gly Ser Ser Arg Ile Ser
            20                  25                  30
Ser Val Leu Ala Gly Gly Ser Cys Arg Ala Pro Ser Thr Tyr Gly Gly
        35                  40                  45
Gly Leu Ser Val Ser Ser Arg Phe Ser Ser Gly Gly Ala Cys Gly Leu
    50                  55                  60
Gly Gly Gly Tyr Gly Gly Gly Phe Ser Ser Ser Ser Ser Phe Gly Ser
65                  70                  75                  80
Gly Phe Gly Gly Gly Tyr Gly Gly Gly Leu Gly Ala Gly Phe Gly Gly
                85                  90                  95
```

Gly Leu Gly Ala Gly Phe Gly Gly Gly Phe Ala Gly Gly Asp Gly Leu
100 105 110
Leu Val Gly Ser Glu Lys Val Thr Met Gln Asn Leu Asn Asp Arg Leu
115 120 125
Ala Ser Tyr Leu Asp Lys Val Arg Ala Leu Glu Glu Ala Asn Ala Asp
130 135 140
Leu Glu Val Lys Ile Arg Asp Trp Tyr Gln Arg Gln Arg Pro Ser Glu
145 150 155 160
Ile Lys Asp Tyr Ser Pro Tyr Phe Lys Thr Ile Glu Asp Leu Arg Asn
165 170 175
Lys Ile Ile Ala Ala Thr Ile Glu Asn Ala Gln Pro Ile Leu Gln Ile
180 185 190
Asp Asn Ala Arg Leu Ala Ala Asp Asp Phe Arg Thr Lys Tyr Glu His
195 200 205
Glu Leu Ala Leu Arg Gln Thr Val Glu Ala Asp Val Asn Gly Leu Arg
210 215 220
Arg Val Leu Asp Glu Leu Thr Leu Ala Arg Thr Asp Leu Glu Met Gln
225 230 235 240
Ile Glu Gly Leu Lys Glu Glu Leu Ala Tyr Leu Arg Lys Asn His Glu
245 250 255
Glu Glu Met Leu Ala Leu Arg Gly Gln Thr Gly Gly Asp Val Asn Val
260 265 270
Glu Met Asp Ala Ala Pro Gly Val Asp Leu Ser Arg Ile Leu Asn Glu
275 280 285
Met Arg Asp Gln Tyr Glu Gln Met Ala Glu Lys Asn Arg Arg Asp Ala
290 295 300
Glu Thr Trp Phe Leu Ser Lys Thr Glu Glu Leu Asn Lys Glu Val Ala
305 310 315 320
Ser Asn Ser Glu Leu Val Gln Ser Ser Arg Ser Glu Val Thr Glu Leu
325 330 335
Arg Arg Val Leu Gln Gly Leu Glu Ile Glu Leu Gln Ser Gln Leu Ser
340 345 350
Met Lys Ala Ser Leu Glu Asn Ser Leu Glu Glu Thr Lys Gly Arg Tyr
355 360 365
Cys Met Gln Leu Ser Gln Ile Gln Gly Leu Ile Gly Ser Val Glu Glu
370 375 380
Gln Leu Ala Gln Leu Arg Cys Glu Met Glu Gln Gln Ser Gln Glu Tyr
385 390 395 400
Gln Ile Leu Leu Asp Val Lys Thr Arg Leu Glu Gln Glu Ile Ala Thr
405 410 415
Tyr Arg Arg Leu Leu Glu Gly Glu Asp Ala His Leu Ser Ser Gln Gln
420 425 430
Ala Ser Gly Gln Ser Tyr Ser Ser Arg Glu Val Phe Thr Ser Ser Ser
435 440 445
Ser Ser Ser Ser Arg Gln Thr Arg Pro Ile Leu Lys Glu Gln Ser Ser
450 455 460
Ser Ser Phe Ser Gln Gly Gln Ser Ser
465 470

<210> 441

<211> 432

<212> PRT

<213> Homo sapiens

<400> 441
Met Thr Thr Ser Ile Arg Gln Phe Thr Ser Ser Ser Ser Ile Lys Gly
1 5 10 15
Ser Ser Gly Leu Gly Gly Gly Ser Ser Arg Thr Ser Cys Arg Leu Ser
20 25 30
Gly Gly Leu Gly Ala Gly Ser Cys Arg Leu Gly Ser Ala Gly Gly Leu
35 40 45

```
Gly Ser Thr Leu Gly Gly Ser Ser Tyr Ser Ser Cys Tyr Ser Phe Gly
    50                  55                  60
Ser Gly Gly Gly Tyr Gly Ser Ser Phe Gly Gly Val Asp Gly Leu Leu
65                  70                  75                  80
Ala Gly Gly Glu Lys Ala Thr Met Gln Asn Leu Asn Asp Arg Leu Ala
                85                  90                  95
Ser Tyr Leu Asp Lys Val Arg Ala Leu Glu Glu Ala Asn Thr Glu Leu
            100                 105                 110
Glu Val Lys Ile Arg Asp Trp Tyr Gln Arg Gln Ala Pro Gly Pro Ala
        115                 120                 125
Arg Asp Tyr Ser Gln Tyr Tyr Arg Thr Ile Glu Glu Leu Gln Asn Lys
    130                 135                 140
Ile Leu Thr Ala Thr Val Asp Asn Ala Asn Ile Leu Leu Gln Ile Asp
145                 150                 155                 160
Asn Ala Arg Leu Ala Ala Asp Asp Phe Arg Thr Lys Phe Glu Thr Glu
                165                 170                 175
Gln Ala Leu Arg Leu Ser Val Glu Ala Asp Ile Asn Gly Leu Arg Arg
            180                 185                 190
Val Leu Asp Glu Leu Thr Leu Ala Arg Ala Asp Leu Glu Met Gln Ile
        195                 200                 205
Glu Asn Leu Lys Glu Glu Leu Ala Tyr Leu Lys Lys Asn His Glu Glu
    210                 215                 220
Glu Met Asn Ala Leu Arg Gly Gln Val Gly Gly Glu Ile Asn Val Glu
225                 230                 235                 240
Met Asp Ala Ala Pro Gly Val Asp Leu Ser Arg Ile Leu Asn Glu Met
                245                 250                 255
Arg Asp Gln Tyr Glu Lys Met Ala Glu Lys Asn Arg Lys Asp Ala Glu
            260                 265                 270
Asp Trp Phe Phe Ser Lys Thr Glu Glu Leu Asn Arg Glu Val Ala Thr
        275                 280                 285
Asn Ser Glu Leu Val Gln Ser Gly Lys Ser Glu Ile Ser Glu Leu Arg
    290                 295                 300
Arg Thr Met Gln Ala Leu Glu Ile Glu Leu Gln Ser Gln Leu Ser Met
305                 310                 315                 320
Lys Ala Ser Leu Glu Gly Asn Leu Ala Glu Thr Glu Asn Arg Tyr Cys
                325                 330                 335
Val Gln Leu Ser Gln Ile Gln Gly Leu Ile Gly Ser Val Glu Glu Gln
            340                 345                 350
Leu Ala Gln Leu Arg Cys Glu Met Glu Gln Gln Asn Gln Glu Tyr Lys
        355                 360                 365
Ile Leu Leu Asp Val Lys Thr Arg Leu Glu Gln Glu Ile Ala Thr Tyr
    370                 375                 380
Arg Arg Leu Leu Glu Gly Glu Asp Ala His Leu Thr Gln Tyr Lys Lys
385                 390                 395                 400
Glu Pro Val Thr Thr Arg Gln Val Arg Thr Ile Val Glu Glu Val Gln
                405                 410                 415
Asp Gly Lys Val Ile Ser Ser Arg Glu Gln Val His Gln Thr Thr Arg
            420                 425                 430
<210>  442

<211>  469

<212>  PRT

<213>  Homo sapiens


<400>  442
Met Ser Ile His Phe Ser Ser Pro Val Phe Thr Ser Arg Ser Ala Ala
1               5                   10                  15
Phe Ser Gly Arg Gly Ala Gln Val Arg Leu Ser Ser Ala Arg Pro Gly
            20                  25                  30
Gly Leu Gly Ser Ser Ser Leu Tyr Gly Leu Gly Ala Ser Arg Pro Arg
        35                  40                  45
```

```
Val Ala Val Arg Ser Ala Tyr Gly Gly Pro Val Gly Ala Gly Ile Arg
    50                  55                  60
Glu Val Thr Ile Asn Gln Ser Leu Leu Ala Pro Leu Arg Leu Asp Ala
65                  70                  75                  80
Asp Pro Ser Leu Gln Arg Val Arg Gln Glu Glu Ser Glu Gln Ile Lys
                85                  90                  95
Thr Leu Asn Asn Lys Phe Ala Ser Phe Ile Asp Lys Val Arg Phe Leu
            100                 105                 110
Glu Gln Gln Asn Lys Leu Leu Glu Thr Lys Trp Thr Leu Leu Gln Glu
        115                 120                 125
Gln Lys Ser Ala Lys Ser Ser Arg Leu Pro Asp Ile Phe Glu Ala Gln
    130                 135                 140
Ile Ala Gly Leu Arg Gly Gln Leu Glu Ala Leu Gln Val Asp Gly Gly
145                 150                 155                 160
Arg Leu Glu Ala Glu Leu Arg Ser Met Gln Asp Val Val Glu Asp Phe
                165                 170                 175
Lys Asn Lys Tyr Glu Asp Glu Ile Asn Arg Arg Thr Ala Ala Glu Asn
            180                 185                 190
Glu Phe Val Val Leu Lys Lys Asp Val Asp Ala Ala Tyr Met Ser Lys
        195                 200                 205
Val Glu Leu Glu Ala Lys Val Asp Ala Leu Asn Asp Glu Ile Asn Phe
    210                 215                 220
Leu Arg Thr Leu Asn Glu Thr Glu Leu Thr Glu Leu Gln Ser Gln Ile
225                 230                 235                 240
Ser Asp Thr Ser Val Val Leu Ser Met Asp Asn Ser Arg Ser Leu Asp
                245                 250                 255
Leu Asp Gly Ile Ile Ala Glu Val Lys Ala Gln Tyr Glu Glu Met Ala
            260                 265                 270
Lys Cys Ser Arg Ala Glu Ala Glu Ala Trp Tyr Gln Thr Lys Phe Glu
        275                 280                 285
Thr Leu Gln Ala Gln Ala Gly Lys His Gly Asp Asp Leu Arg Asn Thr
    290                 295                 300
Arg Asn Glu Ile Ser Glu Met Asn Arg Ala Ile Gln Arg Leu Gln Ala
305                 310                 315                 320
Glu Ile Asp Asn Ile Lys Asn Gln Arg Ala Lys Leu Glu Ala Ala Ile
                325                 330                 335
Ala Glu Ala Glu Glu Arg Gly Glu Leu Ala Leu Lys Asp Ala Arg Ala
            340                 345                 350
Lys Gln Glu Glu Leu Glu Ala Ala Leu Gln Arg Ala Lys Gln Asp Met
        355                 360                 365
Ala Arg Gln Leu Arg Glu Tyr Gln Glu Leu Met Ser Val Lys Leu Ala
    370                 375                 380
Leu Asp Ile Glu Ile Ala Thr Tyr Arg Lys Leu Leu Glu Gly Glu Glu
385                 390                 395                 400
Ser Arg Leu Ala Gly Asp Gly Val Gly Ala Val Asn Ile Ser Val Met
                405                 410                 415
Asn Ser Thr Gly Gly Ser Ser Ser Gly Gly Gly Ile Gly Leu Thr Leu
            420                 425                 430
Gly Gly Thr Met Gly Ser Asn Ala Leu Ser Phe Ser Ser Ser Ala Gly
        435                 440                 445
Pro Gly Leu Leu Lys Ala Tyr Ser Ile Arg Thr Ala Ser Ala Ser Arg
    450                 455                 460
Arg Ser Ala Arg Asp
465
<210>  443

<211>  486

<212>  PRT

<213>  Homo sapiens
```

<400> 443
Met Thr Cys Gly Ser Tyr Cys Gly Gly Arg Ala Phe Ser Cys Ile Ser
1 5 10 15
Ala Cys Gly Pro Arg Pro Gly Arg Cys Cys Ile Thr Ala Ala Pro Tyr
20 25 30
Arg Gly Ile Ser Cys Tyr Arg Gly Leu Thr Gly Gly Phe Gly Ser His
35 40 45
Ser Val Cys Gly Gly Phe Arg Ala Gly Ser Cys Gly Arg Ser Phe Gly
50 55 60
Tyr Arg Ser Gly Gly Val Cys Gly Pro Ser Pro Pro Cys Ile Thr Thr
65 70 75 80
Val Ser Val Asn Glu Ser Leu Leu Thr Pro Leu Asn Leu Glu Ile Asp
85 90 95
Pro Asn Ala Gln Cys Val Lys Gln Glu Glu Lys Glu Gln Ile Lys Ser
100 105 110
Leu Asn Ser Arg Phe Ala Ala Phe Ile Asp Lys Val Arg Phe Leu Glu
115 120 125
Gln Gln Asn Lys Leu Leu Glu Thr Lys Leu Gln Phe Tyr Gln Asn Arg
130 135 140
Glu Cys Cys Gln Ser Asn Leu Glu Pro Leu Phe Glu Gly Tyr Ile Glu
145 150 155 160
Thr Leu Arg Arg Glu Ala Glu Cys Val Glu Ala Asp Ser Gly Arg Leu
165 170 175
Ala Ser Glu Leu Asn His Val Gln Glu Val Leu Glu Gly Tyr Lys Lys
180 185 190
Lys Tyr Glu Glu Glu Val Ser Leu Arg Ala Thr Ala Glu Asn Glu Phe
195 200 205
Val Ala Leu Lys Lys Asp Val Asp Cys Ala Tyr Leu Arg Lys Ser Asp
210 215 220
Leu Glu Ala Asn Val Glu Ala Leu Ile Gln Glu Ile Asp Phe Leu Arg
225 230 235 240
Arg Leu Tyr Glu Glu Glu Ile Arg Val Leu Gln Ser His Ile Ser Asp
245 250 255
Thr Ser Val Val Val Lys Leu Asp Asn Ser Arg Asp Leu Asn Met Asp
260 265 270
Cys Ile Ile Ala Glu Ile Lys Ala Gln Tyr Asp Asp Ile Val Thr Arg
275 280 285
Ser Arg Ala Glu Ala Glu Ser Trp Tyr Arg Ser Lys Cys Glu Glu Met
290 295 300
Lys Ala Thr Val Ile Arg His Gly Glu Thr Leu Arg Arg Thr Lys Glu
305 310 315 320
Glu Ile Asn Glu Leu Asn Arg Met Ile Gln Arg Leu Thr Ala Glu Val
325 330 335
Glu Asn Ala Lys Cys Gln Asn Ser Lys Leu Glu Ala Ala Val Ala Gln
340 345 350
Ser Glu Gln Gln Gly Glu Ala Ala Leu Ser Asp Ala Arg Cys Lys Leu
355 360 365
Ala Glu Leu Glu Gly Ala Leu Gln Lys Ala Lys Gln Asp Met Ala Cys
370 375 380
Leu Ile Arg Glu Tyr Gln Glu Val Met Asn Ser Lys Leu Gly Leu Asp
385 390 395 400
Ile Glu Ile Ala Thr Tyr Arg Arg Leu Leu Glu Gly Glu Glu Gln Arg
405 410 415
Leu Cys Glu Gly Val Gly Ser Val Asn Val Cys Val Ser Ser Ser Arg
420 425 430
Gly Gly Val Val Cys Gly Asp Leu Cys Ala Ser Thr Thr Ala Pro Val
435 440 445
Val Ser Thr Arg Val Ser Ser Val Pro Ser Asn Ser Asn Val Val Val
450 455 460
Gly Thr Thr Asn Ala Cys Ala Pro Ser Ala Arg Val Gly Val Cys Gly
465 470 475 480
Gly Ser Cys Lys Arg Cys
485

<210> 444

<211> 111

<212> PRT

<213> Homo sapiens

<400> 444

```
Met Lys Ala Thr Val Ile Trp His Gly Glu Thr Val Gly Cys Thr Lys
1               5                  10                  15
Glu Glu Ile Lys Glu Leu Thr His Met Ile Gln Arg Leu Met Ala Lys
            20                  25                  30
Val Glu Asn Ala Lys Cys Gln Val Trp Gly Ile Cys Ala Gln Gly Gln
        35                  40                  45
Arg Asp Leu Trp Pro Asn Leu Cys His Thr Ala Tyr Val Cys Pro Thr
    50                  55                  60
Trp Ile Ser Ala Phe Ile Leu Gln Ser Leu Cys Pro Cys Arg Val Pro
65                  70                  75                  80
Gly Cys Gly Gln Ser Gly Ser Ala Arg Met Met Lys Ala Arg Gly Leu
                85                  90                  95
Phe Leu Arg Cys Ser Gln Leu Asn Gly Arg Leu Asp Ile Phe Arg
            100                 105                 110
```

<210> 445

<211> 505

<212> PRT

<213> Homo sapiens

<400> 445

```
Met Thr Cys Gly Ser Gly Phe Gly Gly Arg Ala Phe Ser Cys Ile Ser
1               5                  10                  15
Ala Cys Gly Pro Arg Pro Gly Arg Cys Cys Ile Thr Ala Ala Pro Tyr
            20                  25                  30
Arg Gly Ile Ser Cys Tyr Arg Gly Leu Thr Gly Gly Phe Gly Ser His
        35                  40                  45
Ser Val Cys Gly Gly Phe Arg Ala Gly Ser Cys Gly Arg Ser Phe Gly
    50                  55                  60
Tyr Arg Ser Gly Gly Val Cys Gly Pro Ser Pro Pro Cys Ile Thr Thr
65                  70                  75                  80
Val Ser Val Asn Glu Ser Leu Leu Thr Pro Leu Asn Leu Glu Ile Asp
                85                  90                  95
Pro Asn Ala Gln Cys Val Lys Gln Glu Glu Lys Glu Gln Ile Lys Ser
            100                 105                 110
Leu Asn Ser Arg Phe Ala Ala Phe Ile Asp Lys Val Arg Phe Leu Glu
        115                 120                 125
Gln Gln Asn Lys Leu Leu Glu Thr Lys Leu Gln Phe Tyr Gln Asn Arg
    130                 135                 140
Glu Cys Cys Gln Ser Asn Leu Glu Pro Leu Phe Glu Gly Tyr Ile Glu
145                 150                 155                 160
Thr Leu Arg Arg Glu Ala Glu Cys Val Glu Ala Asp Ser Gly Arg Leu
                165                 170                 175
Ala Ser Glu Leu Asn His Val Gln Glu Val Leu Glu Gly Tyr Lys Lys
            180                 185                 190
Lys Tyr Glu Glu Glu Val Ser Leu Arg Ala Thr Ala Glu Asn Glu Phe
        195                 200                 205
Val Ala Leu Lys Lys Asp Val Asp Cys Ala Tyr Leu Arg Lys Ser Asp
    210                 215                 220
Leu Glu Ala Asn Val Glu Ala Leu Ile Gln Glu Ile Asp Phe Leu Arg
225                 230                 235                 240
Arg Leu Tyr Glu Glu Glu Ile Arg Ile Leu Gln Ser His Ile Ser Asp
                245                 250                 255
```

```
Thr Ser Val Val Val Lys Leu Asp Asn Ser Arg Asp Leu Asn Met Asp
            260                 265                 270
Cys Ile Ile Ala Glu Ile Lys Ala Gln Tyr Asp Asp Ile Val Thr Arg
        275                 280                 285
Ser Arg Ala Glu Ala Glu Ser Trp Tyr Arg Ser Lys Cys Glu Glu Met
    290                 295                 300
Lys Ala Thr Val Ile Arg His Gly Glu Thr Leu Arg Arg Thr Lys Glu
305                 310                 315                 320
Glu Ile Asn Glu Leu Asn Arg Met Ile Gln Arg Leu Thr Ala Glu Val
                325                 330                 335
Glu Asn Ala Lys Cys Gln Asn Ser Lys Leu Glu Ala Ala Val Ala Gln
            340                 345                 350
Ser Glu Gln Gln Gly Glu Ala Ala Leu Ser Asp Ala Arg Cys Lys Leu
        355                 360                 365
Ala Glu Leu Glu Gly Ala Leu Gln Lys Ala Lys Gln Asp Met Ala Cys
    370                 375                 380
Leu Ile Arg Glu Tyr Gln Glu Val Met Asn Ser Lys Leu Gly Leu Asp
385                 390                 395                 400
Ile Glu Ile Ala Thr Tyr Arg Arg Leu Leu Glu Gly Glu Glu Gln Arg
                405                 410                 415
Leu Cys Glu Gly Ile Gly Ala Val Asn Val Cys Val Ser Ser Ser Arg
            420                 425                 430
Gly Gly Val Val Cys Gly Asp Leu Cys Val Ser Gly Ser Arg Pro Val
        435                 440                 445
Thr Gly Ser Val Cys Ser Ala Pro Cys Asn Gly Asn Val Ala Val Ser
    450                 455                 460
Thr Gly Leu Cys Ala Pro Cys Gly Gln Leu Asn Thr Thr Cys Gly Gly
465                 470                 475                 480
Gly Ser Cys Gly Val Gly Ser Cys Gly Ile Ser Ser Leu Gly Val Gly
                485                 490                 495
Ser Cys Gly Ser Ser Cys Arg Lys Cys
            500                 505
<210>  446

<211>  486

<212>  PRT

<213>  Homo sapiens


<400>  446
Met Thr Cys Gly Ser Tyr Cys Gly Gly Arg Ala Phe Ser Cys Ile Ser
1               5                   10                  15
Ala Cys Gly Pro Arg Pro Gly Arg Cys Cys Ile Thr Ala Ala Pro Tyr
            20                  25                  30
Arg Gly Ile Ser Cys Tyr Arg Gly Leu Thr Gly Gly Phe Gly Ser His
        35                  40                  45
Ser Val Cys Gly Gly Phe Arg Ala Gly Ser Cys Gly Arg Ser Phe Gly
    50                  55                  60
Tyr Arg Ser Gly Gly Val Cys Gly Pro Ser Pro Pro Cys Ile Thr Thr
65                  70                  75                  80
Val Ser Val Asn Glu Ser Leu Leu Thr Pro Leu Asn Leu Glu Ile Asp
                85                  90                  95
Pro Asn Ala Gln Cys Val Lys Gln Glu Glu Lys Glu Gln Ile Lys Ser
            100                 105                 110
Leu Asn Ser Arg Phe Ala Ala Phe Ile Asp Lys Val Arg Phe Leu Glu
        115                 120                 125
Gln Gln Asn Lys Leu Leu Glu Thr Lys Leu Gln Phe Tyr Gln Asn Arg
    130                 135                 140
Glu Cys Cys Gln Ser Asn Leu Glu Pro Leu Phe Glu Gly Tyr Ile Glu
145                 150                 155                 160
Thr Leu Arg Arg Glu Ala Glu Cys Val Glu Ala Asp Ser Gly Arg Leu
                165                 170                 175
```

```
Ala Ser Glu Leu Asn His Val Gln Glu Val Leu Glu Gly Tyr Lys Lys
            180                 185                 190
Lys Tyr Glu Glu Glu Val Ser Leu Arg Ala Thr Ala Glu Asn Glu Phe
        195                 200                 205
Val Ala Leu Lys Lys Asp Val Asp Cys Ala Tyr Leu Arg Lys Ser Asp
    210                 215                 220
Leu Glu Ala Asn Val Glu Ala Leu Ile Gln Glu Ile Asp Phe Leu Arg
225                 230                 235                 240
Arg Leu Tyr Glu Glu Glu Ile Arg Val Leu Gln Ser His Ile Ser Asp
                245                 250                 255
Thr Ser Val Val Val Lys Leu Asp Asn Ser Arg Asp Leu Asn Met Asp
            260                 265                 270
Cys Ile Ile Ala Glu Ile Lys Ala Gln Tyr Asp Asp Ile Val Thr Arg
        275                 280                 285
Ser Arg Ala Glu Ala Glu Ser Trp Tyr Arg Ser Lys Cys Glu Glu Met
    290                 295                 300
Lys Ala Thr Val Ile Arg His Gly Glu Thr Leu Arg Arg Thr Lys Glu
305                 310                 315                 320
Glu Ile Asn Glu Leu Asn Arg Met Ile Gln Arg Leu Thr Ala Glu Val
                325                 330                 335
Glu Asn Ala Lys Cys Gln Asn Ser Lys Leu Glu Ala Ala Val Ala Gln
            340                 345                 350
Ser Glu Gln Gln Gly Glu Ala Ala Leu Ser Asp Ala Arg Cys Lys Leu
        355                 360                 365
Ala Glu Leu Glu Gly Ala Leu Gln Lys Ala Lys Gln Asp Met Ala Cys
    370                 375                 380
Leu Ile Arg Glu Tyr Gln Glu Val Met Asn Ser Lys Leu Gly Leu Asp
385                 390                 395                 400
Ile Glu Ile Ala Thr Tyr Arg Arg Leu Leu Glu Gly Glu Glu Gln Arg
                405                 410                 415
Leu Cys Glu Gly Val Gly Ser Val Asn Val Cys Val Ser Ser Ser Arg
            420                 425                 430
Gly Gly Val Val Cys Gly Asp Leu Cys Ala Ser Thr Thr Ala Pro Val
        435                 440                 445
Val Ser Thr Arg Val Ser Ser Val Pro Ser Asn Ser Asn Val Val Val
    450                 455                 460
Gly Thr Thr Asn Ala Cys Ala Pro Ser Ala Arg Val Gly Val Cys Gly
465                 470                 475                 480
Gly Ser Cys Lys Arg Cys
                485
```

<210> 447

<211> 493

<212> PRT

<213> Homo sapiens

<400> 447

```
Met Thr Cys Gly Phe Asn Ser Ile Gly Cys Gly Phe Arg Pro Gly Asn
1               5                   10                  15
Phe Ser Cys Val Ser Ala Cys Gly Pro Arg Pro Ser Arg Cys Cys Ile
            20                  25                  30
Thr Ala Ala Pro Tyr Arg Gly Ile Ser Cys Tyr Arg Gly Leu Thr Gly
        35                  40                  45
Gly Phe Gly Ser His Ser Val Cys Gly Gly Phe Arg Ala Gly Ser Cys
    50                  55                  60
Gly Arg Ser Phe Gly Tyr Arg Ser Gly Gly Val Cys Gly Pro Ser Pro
65                  70                  75                  80
Pro Cys Ile Thr Thr Val Ser Val Asn Glu Ser Leu Leu Thr Pro Leu
                85                  90                  95
Asn Leu Glu Ile Asp Pro Asn Ala Gln Cys Val Lys Gln Glu Glu Lys
            100                 105                 110
```

```
Glu Gln Ile Lys Ser Leu Asn Ser Arg Phe Ala Ala Phe Ile Asp Lys
        115                 120                 125
Val Arg Phe Leu Glu Gln Gln Asn Lys Leu Leu Glu Thr Lys Leu Gln
    130                 135                 140
Phe Tyr Gln Asn Cys Glu Cys Cys Gln Ser Asn Leu Glu Pro Leu Phe
145                 150                 155                 160
Ala Gly Tyr Ile Glu Thr Leu Arg Arg Glu Ala Glu Cys Val Glu Ala
                165                 170                 175
Asp Ser Gly Arg Leu Ala Ser Glu Leu Asn His Val Gln Glu Val Leu
            180                 185                 190
Glu Gly Tyr Lys Lys Lys Tyr Glu Glu Glu Val Ala Leu Arg Ala Thr
        195                 200                 205
Ala Glu Asn Glu Phe Val Ala Leu Lys Lys Asp Val Asp Cys Ala Tyr
    210                 215                 220
Leu Arg Lys Ser Asp Leu Glu Ala Asn Val Glu Ala Leu Ile Gln Glu
225                 230                 235                 240
Ile Asp Phe Leu Arg Arg Leu Tyr Glu Glu Glu Ile Arg Ile Leu Gln
                245                 250                 255
Ser His Ile Ser Asp Thr Ser Val Val Val Lys Leu Asp Asn Ser Arg
            260                 265                 270
Asp Leu Asn Met Asp Cys Ile Val Ala Glu Ile Lys Ala Gln Tyr Asp
        275                 280                 285
Asp Ile Ala Thr Arg Ser Arg Ala Glu Ala Glu Ser Trp Tyr Arg Ser
    290                 295                 300
Lys Cys Glu Glu Met Lys Ala Thr Val Ile Arg His Gly Glu Thr Leu
305                 310                 315                 320
Arg Arg Thr Lys Glu Glu Ile Asn Glu Leu Asn Arg Met Ile Gln Arg
                325                 330                 335
Leu Thr Ala Glu Val Glu Asn Ala Lys Cys Gln Asn Ser Lys Leu Glu
            340                 345                 350
Ala Ala Val Ala Gln Ser Glu Gln Gln Gly Glu Ala Ala Leu Ser Asp
        355                 360                 365
Ala Arg Cys Lys Leu Ala Glu Leu Glu Gly Ala Leu Gln Lys Ala Lys
    370                 375                 380
Gln Asp Met Ala Cys Leu Ile Arg Glu Tyr Gln Glu Val Met Asn Ser
385                 390                 395                 400
Lys Leu Gly Leu Asp Ile Glu Ile Ala Thr Tyr Arg Arg Leu Leu Glu
                405                 410                 415
Gly Glu Glu Gln Arg Leu Cys Glu Gly Val Glu Ala Val Asn Val Cys
            420                 425                 430
Val Ser Ser Ser Arg Gly Gly Val Val Cys Gly Asp Leu Cys Val Ser
        435                 440                 445
Gly Ser Arg Pro Val Thr Gly Ser Val Cys Ser Ala Pro Cys Asn Gly
    450                 455                 460
Asn Leu Val Val Ser Thr Gly Leu Cys Lys Pro Cys Gly Gln Leu Asn
465                 470                 475                 480
Thr Thr Cys Gly Gly Gly Ser Cys Gly Gln Gly Arg Tyr
                485                 490
```

<210> 448

<211> 143

<212> PRT

<213> Homo sapiens

```
<400> 448
Met Ala Ser Gln Ser Cys His Ile Ser Ser Gly Cys Gly Val Lys Asn
1               5                  10                  15
Phe Ser Ser Arg Ser Ala Thr Val Pro Lys Pro Gly Tyr His Ser Cys
            20                  25                  30
Val Ser Ala Met Ala His His Gly Val Ser Pro Gly Gly Leu Gly Ser
        35                  40                  45
```

```
Arg Arg Leu Gly Gly Phe Gly Ser Gln Ser Leu Cys Thr Val Gly Ser
    50                  55                  60
Pro Arg Ile Ala Val Ser Cys Arg Trp Pro Leu His Ser Arg Gly Arg
65                  70                  75                  80
Phe Gly Tyr Trp Ala Gly Gly Leu Cys Arg Pro Ser Pro Pro Arg Ile
                85                  90                  95
Thr Ser Val Thr Ile Asn Glu Ser Leu Leu Met Pro Leu Asn Leu Glu
            100                 105                 110
Ile Asp Pro Asn Ala Gln Cys Val Lys His Glu Glu Lys Glu His Ile
        115                 120                 125
Arg Cys Leu Asn Lys Phe Ala Ala Phe Ile Asp Lys Val Gly Leu
    130                 135                 140
<210>  449

<211>  507

<212>  PRT

<213>  Homo sapiens


<400>  449
Met Ser Cys Arg Ser Tyr Arg Ile Ser Ser Gly Cys Gly Val Thr Arg
1               5                   10                  15
Asn Phe Ser Ser Cys Ser Ala Val Ala Pro Lys Thr Gly Asn Arg Cys
            20                  25                  30
Cys Ile Ser Ala Ala Pro Tyr Arg Gly Val Ser Cys Tyr Arg Gly Leu
        35                  40                  45
Thr Gly Phe Gly Ser Arg Ser Leu Cys Asn Leu Gly Ser Cys Gly Pro
    50                  55                  60
Arg Ile Ala Val Gly Gly Phe Arg Ala Gly Ser Cys Gly Arg Ser Phe
65                  70                  75                  80
Gly Tyr Arg Ser Gly Gly Val Cys Gly Pro Ser Pro Pro Cys Ile Thr
                85                  90                  95
Thr Val Ser Val Asn Glu Ser Leu Leu Thr Pro Leu Asn Leu Glu Ile
            100                 105                 110
Asp Pro Asn Ala Gln Cys Val Lys Gln Glu Glu Lys Glu Gln Ile Lys
        115                 120                 125
Ser Leu Asn Ser Arg Phe Ala Ala Phe Ile Asp Lys Val Arg Phe Leu
    130                 135                 140
Glu Gln Gln Asn Lys Leu Leu Glu Thr Lys Trp Gln Phe Tyr Gln Asn
145                 150                 155                 160
Gln Arg Cys Cys Glu Ser Asn Leu Glu Pro Leu Phe Ser Gly Tyr Ile
                165                 170                 175
Glu Thr Leu Arg Arg Glu Ala Glu Cys Val Glu Ala Asp Ser Gly Arg
            180                 185                 190
Leu Ala Ser Glu Leu Asn His Val Gln Glu Val Leu Glu Gly Tyr Lys
        195                 200                 205
Lys Lys Tyr Glu Glu Glu Val Ala Leu Arg Ala Thr Ala Glu Asn Glu
    210                 215                 220
Phe Val Val Leu Lys Lys Asp Val Asp Cys Ala Tyr Leu Arg Lys Ser
225                 230                 235                 240
Asp Leu Glu Ala Asn Val Glu Ala Leu Val Glu Glu Ser Ser Phe Leu
                245                 250                 255
Arg Arg Leu Tyr Glu Glu Glu Ile Arg Val Leu Gln Ala His Ile Ser
            260                 265                 270
Asp Thr Ser Val Ile Val Lys Met Asp Asn Ser Arg Asp Leu Asn Met
        275                 280                 285
Asp Cys Ile Ile Ala Glu Ile Lys Ala Gln Tyr Asp Asp Val Ala Ser
    290                 295                 300
Arg Ser Arg Ala Glu Ala Glu Ser Trp Tyr Arg Ser Lys Cys Glu Glu
305                 310                 315                 320
Met Lys Ala Thr Val Ile Arg His Gly Glu Thr Leu Arg Arg Thr Lys
                325                 330                 335
```

```
Glu Glu Ile Asn Glu Leu Asn Arg Met Ile Gln Arg Leu Thr Ala Glu
            340                 345                 350
Ile Glu Asn Ala Lys Cys Gln Arg Ala Lys Leu Glu Ala Ala Val Ala
        355                 360                 365
Glu Ala Glu Gln Gln Gly Glu Ala Ala Leu Ser Asp Ala Arg Cys Lys
    370                 375                 380
Leu Ala Glu Leu Glu Gly Ala Leu Gln Lys Ala Lys Gln Asp Met Ala
385                 390                 395                 400
Cys Leu Leu Lys Glu Tyr Gln Glu Val Met Asn Ser Lys Leu Gly Leu
                405                 410                 415
Asp Ile Glu Ile Ala Thr Tyr Arg Arg Leu Leu Glu Gly Glu Glu His
            420                 425                 430
Arg Leu Cys Glu Gly Val Gly Ser Val Asn Val Cys Val Ser Ser Ser
        435                 440                 445
Arg Gly Gly Val Ser Cys Gly Gly Leu Ser Tyr Ser Thr Thr Pro Gly
    450                 455                 460
Arg Gln Ile Thr Ser Gly Pro Ser Ala Ile Gly Gly Ser Ile Thr Val
465                 470                 475                 480
Val Ala Pro Asp Ser Cys Ala Pro Cys Gln Pro Arg Ser Ser Ser Phe
                485                 490                 495
Ser Cys Gly Ser Ser Arg Ser Val Arg Phe Ala
            500                 505
```

<210> 450

<211> 600

<212> PRT

<213> Homo sapiens

<400> 450

```
Met Ser Cys Arg Ser Tyr Arg Val Ser Ser Gly His Arg Val Gly Asn
1                   5                   10                  15
Phe Ser Ser Cys Ser Ala Met Thr Pro Gln Asn Leu Asn Arg Phe Arg
            20                  25                  30
Ala Asn Ser Val Ser Cys Trp Ser Gly Pro Gly Phe Arg Gly Leu Gly
        35                  40                  45
Ser Phe Gly Ser Arg Ser Val Ile Thr Phe Gly Ser Tyr Ser Pro Arg
    50                  55                  60
Ile Ala Ala Val Gly Ser Arg Pro Ile His Cys Gly Val Arg Phe Gly
65                  70                  75                  80
Ala Gly Cys Gly Met Gly Phe Gly Asp Gly Arg Gly Val Gly Leu Gly
                85                  90                  95
Pro Arg Ala Asp Ser Cys Val Gly Leu Gly Phe Gly Ala Gly Ser Gly
            100                 105                 110
Ile Gly Tyr Gly Phe Gly Gly Pro Gly Phe Gly Tyr Arg Val Gly Gly
        115                 120                 125
Val Gly Val Pro Ala Ala Pro Ser Ile Thr Ala Val Thr Val Asn Lys
    130                 135                 140
Ser Leu Leu Thr Pro Leu Asn Leu Glu Ile Asp Pro Asn Ala Gln Arg
145                 150                 155                 160
Val Lys Lys Asp Glu Lys Glu Gln Ile Lys Thr Leu Asn Asn Lys Phe
                165                 170                 175
Ala Ser Phe Ile Asp Lys Val Arg Phe Leu Glu Gln Gln Asn Lys Leu
            180                 185                 190
Leu Glu Thr Lys Trp Ser Phe Leu Gln Glu Gln Lys Cys Ile Arg Ser
        195                 200                 205
Asn Leu Glu Pro Leu Phe Glu Ser Tyr Ile Thr Asn Leu Arg Arg Gln
    210                 215                 220
Leu Glu Val Leu Val Ser Asp Gln Ala Arg Leu Gln Ala Glu Arg Asn
225                 230                 235                 240
His Leu Gln Asp Val Leu Glu Gly Phe Lys Lys Lys Tyr Glu Glu Glu
                245                 250                 255
```

```
Val Val Cys Arg Ala Asn Ala Glu Asn Glu Phe Val Ala Leu Lys Lys
            260                 265                 270
Asp Val Asp Ala Ala Phe Met Asn Lys Ser Asp Leu Glu Ala Asn Val
        275                 280                 285
Asp Thr Leu Thr Gln Glu Ile Asp Phe Leu Lys Thr Leu Tyr Met Glu
    290                 295                 300
Glu Ile Gln Leu Leu Gln Ser His Ile Ser Glu Thr Ser Val Ile Val
305                 310                 315                 320
Lys Met Asp Asn Ser Arg Asp Leu Asn Leu Asp Gly Ile Ile Ala Glu
                325                 330                 335
Val Lys Ala Gln Tyr Glu Glu Val Ala Arg Arg Ser Arg Ala Asp Ala
            340                 345                 350
Glu Ala Trp Tyr Gln Thr Lys Tyr Glu Glu Met Gln Val Thr Ala Gly
        355                 360                 365
Gln His Cys Asp Asn Leu Arg Asn Ile Arg Asn Glu Ile Asn Glu Leu
    370                 375                 380
Thr Arg Leu Ile Gln Arg Leu Lys Ala Glu Ile Glu His Ala Lys Ala
385                 390                 395                 400
Gln Arg Ala Lys Leu Glu Ala Ala Val Ala Glu Ala Glu Gln Gln Gly
                405                 410                 415
Glu Ala Thr Leu Ser Asp Ala Lys Cys Lys Leu Ala Asp Leu Glu Cys
            420                 425                 430
Ala Leu Gln Gln Ala Lys Gln Asp Met Ala Arg Gln Leu Cys Glu Tyr
        435                 440                 445
Gln Glu Leu Met Asn Ala Lys Leu Gly Leu Asp Ile Glu Ile Ala Thr
    450                 455                 460
Tyr Arg Arg Leu Leu Glu Gly Glu Glu Ser Arg Leu Cys Glu Gly Val
465                 470                 475                 480
Gly Pro Val Asn Ile Ser Val Ser Ser Ser Arg Gly Gly Leu Val Cys
                485                 490                 495
Gly Pro Glu Pro Leu Val Ala Gly Ser Thr Leu Ser Arg Gly Gly Val
            500                 505                 510
Thr Phe Ser Gly Ser Ser Ser Val Cys Ala Thr Ser Gly Val Leu Ala
        515                 520                 525
Ser Cys Gly Pro Ser Leu Gly Gly Ala Arg Val Ala Pro Ala Thr Gly
    530                 535                 540
Asp Leu Leu Ser Thr Gly Thr Arg Ser Gly Ser Met Leu Ile Ser Glu
545                 550                 555                 560
Ala Cys Val Pro Ser Val Pro Cys Pro Leu Pro Thr Gln Gly Gly Phe
                565                 570                 575
Ser Ser Cys Ser Gly Gly Arg Ser Ser Ser Val Arg Phe Val Ser Thr
            580                 585                 590
Thr Thr Ser Cys Arg Thr Lys Tyr
        595                 600
<210>  451

<211>  513

<212>  PRT

<213>  Homo sapiens


<400>  451
Met Ser Tyr His Ser Phe Gln Pro Gly Ser Arg Cys Gly Ser Gln Ser
1               5                   10                  15
Phe Ser Ser Tyr Ser Ala Val Met Pro Arg Met Val Thr His Tyr Ala
            20                  25                  30
Val Ser Lys Gly Pro Cys Arg Pro Gly Gly Gly Arg Gly Leu Arg Ala
        35                  40                  45
Leu Gly Cys Leu Gly Ser Arg Ser Leu Cys Asn Val Gly Phe Gly Arg
    50                  55                  60
Pro Arg Val Ala Ser Arg Cys Gly Gly Thr Leu Pro Gly Phe Gly Tyr
65                  70                  75                  80
```

```
Arg Leu Gly Ala Thr Cys Gly Pro Ser Ala Cys Ile Thr Pro Val Thr
                 85                  90                  95
Ile Asn Glu Ser Leu Leu Val Pro Leu Ala Leu Glu Ile Asp Pro Thr
            100                 105                 110
Val Gln Arg Val Lys Arg Asp Glu Lys Glu Gln Ile Lys Cys Leu Asn
        115                 120                 125
Asn Arg Phe Ala Ser Phe Ile Asn Lys Val Arg Phe Leu Glu Gln Lys
    130                 135                 140
Asn Lys Leu Leu Glu Thr Lys Trp Asn Phe Met Gln Gln Gln Arg Cys
145                 150                 155                 160
Cys Gln Thr Asn Ile Glu Pro Ile Phe Glu Gly Tyr Ile Ser Ala Leu
                165                 170                 175
Arg Arg Gln Leu Asp Cys Val Ser Gly Asp Arg Val Arg Leu Glu Ser
            180                 185                 190
Glu Leu Cys Ser Leu Gln Ala Ala Leu Glu Gly Tyr Lys Lys Lys Tyr
        195                 200                 205
Glu Glu Glu Leu Ser Leu Arg Pro Cys Val Glu Asn Glu Phe Val Ala
    210                 215                 220
Leu Lys Lys Asp Val Asp Thr Ala Phe Leu Met Lys Ala Asp Leu Glu
225                 230                 235                 240
Thr Asn Ala Glu Ala Leu Val Gln Glu Ile Asp Phe Leu Lys Ser Leu
                245                 250                 255
Tyr Glu Glu Glu Ile Cys Leu Leu Gln Ser Gln Ile Ser Glu Thr Ser
            260                 265                 270
Val Ile Val Lys Met Asp Asn Ser Arg Glu Leu Asp Val Asp Gly Ile
        275                 280                 285
Ile Ala Glu Ile Lys Ala Gln Tyr Asp Asp Ile Ala Ser Arg Ser Lys
    290                 295                 300
Ala Glu Ala Glu Ala Trp Tyr Gln Cys Arg Tyr Glu Glu Leu Arg Val
305                 310                 315                 320
Thr Ala Gly Asn His Cys Asp Asn Leu Arg Asn Arg Lys Asn Glu Ile
                325                 330                 335
Leu Glu Met Asn Lys Leu Ile Gln Arg Leu Gln Gln Glu Thr Glu Asn
            340                 345                 350
Val Lys Ala Gln Arg Cys Lys Leu Glu Gly Ala Ile Ala Glu Ala Glu
        355                 360                 365
Gln Gln Gly Glu Ala Ala Leu Asn Asp Ala Lys Cys Lys Leu Ala Gly
    370                 375                 380
Leu Glu Glu Ala Leu Gln Lys Ala Lys Gln Asp Met Ala Cys Leu Leu
385                 390                 395                 400
Lys Glu Tyr Gln Glu Val Met Asn Ser Lys Leu Gly Leu Asp Ile Glu
                405                 410                 415
Ile Ala Thr Tyr Arg Arg Leu Leu Glu Gly Glu Glu His Arg Leu Cys
            420                 425                 430
Glu Gly Ile Gly Pro Val Asn Ile Ser Val Ser Ser Ser Lys Gly Ala
        435                 440                 445
Phe Leu Tyr Glu Pro Cys Gly Val Ser Thr Pro Val Leu Ser Thr Gly
    450                 455                 460
Val Leu Arg Ser Asn Gly Gly Cys Ser Ile Val Gly Thr Gly Glu Leu
465                 470                 475                 480
Tyr Val Pro Cys Glu Pro Gln Gly Leu Leu Ser Cys Gly Ser Gly Arg
                485                 490                 495
Lys Ser Ser Met Thr Leu Gly Ala Gly Gly Ser Ser Pro Ser His Lys
            500                 505                 510
His
```

<210> 452

<211> 85

<212> PRT

<213> Homo sapiens

<400> 452
Met Asp Ala Val Tyr Met Asn Lys Val Gly Leu Glu Ala Lys Val Asp
1 5 10 15
Ala Leu Met Glu Glu Thr Asn Phe Leu Ser Thr Phe Tyr Lys Ala Val
20 25 30
Arg Val Pro Gly Ala Pro Ser Asn Arg Gly Ala Gly Gly Trp Val Leu
35 40 45
Glu Pro Gln Leu Gly Thr Glu Pro Val Gly Ser Phe Pro Gly Leu Leu
50 55 60
Ser Ala Pro Tyr Pro Thr Cys Val Leu Gln Gly Arg Cys His Phe Pro
65 70 75 80
Tyr His Arg Arg Lys
85

<210> 453

<211> 564

<212> PRT

<213> Homo sapiens

<400> 453
Met Ala Ser Thr Ser Thr Thr Ile Arg Ser His Ser Ser Ser Arg Arg
1 5 10 15
Gly Phe Ser Ala Ser Ser Ala Arg Leu Pro Gly Val Ser Arg Ser Gly
20 25 30
Phe Ser Ser Ile Ser Val Ser Arg Ser Arg Gly Ser Gly Gly Leu Gly
35 40 45
Gly Ala Cys Gly Gly Ala Gly Phe Gly Ser Arg Ser Leu Tyr Gly Leu
50 55 60
Gly Gly Ser Lys Arg Ile Ser Ile Gly Gly Gly Ser Cys Ala Ile Ser
65 70 75 80
Gly Gly Tyr Gly Ser Arg Ala Gly Gly Ser Tyr Gly Phe Gly Gly Ala
85 90 95
Gly Ser Gly Phe Gly Phe Gly Gly Gly Ala Gly Ile Gly Phe Gly Leu
100 105 110
Gly Gly Gly Ala Gly Leu Ala Gly Gly Phe Gly Gly Pro Gly Phe Pro
115 120 125
Val Cys Pro Pro Gly Gly Ile Gln Glu Val Thr Val Asn Gln Ser Leu
130 135 140
Leu Thr Pro Leu Asn Leu Gln Ile Asp Pro Ala Ile Gln Arg Val Arg
145 150 155 160
Ala Glu Glu Arg Glu Gln Ile Lys Thr Leu Asn Asn Lys Phe Ala Ser
165 170 175
Phe Ile Asp Lys Val Arg Phe Leu Glu Gln Gln Asn Lys Val Leu Asp
180 185 190
Thr Lys Trp Thr Leu Leu Gln Glu Gln Gly Thr Lys Thr Val Arg Gln
195 200 205
Asn Leu Glu Pro Leu Phe Glu Gln Tyr Ile Asn Asn Leu Arg Arg Gln
210 215 220
Leu Asp Ser Ile Val Gly Glu Arg Gly Arg Leu Asp Ser Glu Leu Arg
225 230 235 240
Asn Met Gln Asp Leu Val Glu Asp Leu Lys Asn Lys Tyr Glu Asp Glu
245 250 255
Ile Asn Lys Arg Thr Ala Ala Glu Asn Glu Phe Val Thr Leu Lys Lys
260 265 270
Asp Val Asp Ala Ala Tyr Met Asn Lys Val Glu Leu Gln Ala Lys Ala
275 280 285
Asp Thr Leu Thr Asp Glu Ile Asn Phe Leu Arg Ala Leu Tyr Asp Ala
290 295 300
Glu Leu Ser Gln Met Gln Thr His Ile Ser Asp Thr Ser Val Val Leu
305 310 315 320
Ser Met Asp Asn Asn Arg Asn Leu Asp Leu Asp Ser Ile Ile Ala Glu
325 330 335

```
Val Lys Ala Gln Tyr Glu Glu Ile Ala Gln Arg Ser Arg Ala Glu Ala
            340                 345                 350
Glu Ser Trp Tyr Gln Thr Lys Tyr Glu Glu Leu Gln Val Thr Ala Gly
        355                 360                 365
Arg His Gly Asp Asp Leu Arg Asn Thr Lys Gln Glu Ile Ala Glu Ile
    370                 375                 380
Asn Arg Met Ile Gln Arg Leu Arg Ser Glu Ile Asp His Val Lys Lys
385                 390                 395                 400
Gln Cys Ala Asn Leu Gln Ala Ala Ile Ala Asp Ala Glu Gln Arg Gly
                405                 410                 415
Glu Met Ala Leu Lys Asp Ala Lys Asn Lys Leu Glu Gly Leu Glu Asp
            420                 425                 430
Ala Leu Gln Lys Ala Lys Gln Asp Leu Ala Arg Leu Leu Lys Glu Tyr
        435                 440                 445
Gln Glu Leu Met Asn Val Lys Leu Ala Leu Asp Val Glu Ile Ala Thr
    450                 455                 460
Tyr Arg Lys Leu Leu Glu Gly Glu Glu Cys Arg Leu Asn Gly Glu Gly
465                 470                 475                 480
Val Gly Gln Val Asn Ile Ser Val Val Gln Ser Thr Val Ser Ser Gly
                485                 490                 495
Tyr Gly Gly Ala Ser Gly Val Gly Ser Gly Leu Gly Leu Gly Gly Gly
            500                 505                 510
Ser Ser Tyr Ser Tyr Gly Ser Gly Leu Gly Val Gly Gly Gly Phe Ser
        515                 520                 525
Ser Ser Ser Gly Arg Ala Thr Gly Gly Gly Leu Ser Ser Val Gly Gly
    530                 535                 540
Gly Ser Ser Thr Ile Lys Tyr Thr Thr Thr Ser Ser Ser Ser Arg Lys
545                 550                 555                 560
Ser Tyr Lys His
```

<210> 454

<211> 564

<212> PRT

<213> Homo sapiens

```
<400> 454
Met Ala Ser Thr Ser Thr Thr Ile Arg Ser His Ser Ser Ser Arg Arg
1               5                   10                  15
Gly Phe Ser Ala Asn Ser Ala Arg Leu Pro Gly Val Ser Arg Ser Gly
            20                  25                  30
Phe Ser Ser Ile Ser Val Ser Arg Ser Arg Gly Ser Gly Gly Leu Gly
        35                  40                  45
Gly Ala Cys Gly Gly Ala Gly Phe Gly Ser Arg Ser Leu Tyr Gly Leu
    50                  55                  60
Gly Gly Ser Lys Arg Ile Ser Ile Gly Gly Gly Ser Cys Ala Ile Ser
65                  70                  75                  80
Gly Gly Tyr Gly Ser Arg Ala Arg Gly Ser Tyr Gly Phe Gly Gly Ala
                85                  90                  95
Gly Ser Gly Phe Gly Phe Gly Gly Gly Ala Gly Ile Gly Phe Asp Leu
            100                 105                 110
Gly Gly Gly Ala Gly Leu Ala Gly Gly Phe Gly Gly Pro Gly Phe Pro
        115                 120                 125
Val Cys Pro Pro Gly Gly Ile Gln Glu Val Thr Val Asn Gln Ser Leu
    130                 135                 140
Leu Thr Pro Leu Asn Leu Gln Ile Asp Pro Ala Ile Gln Arg Val Arg
145                 150                 155                 160
Ala Glu Glu Arg Glu Gln Ile Lys Thr Leu Asn Asn Lys Phe Ala Ser
                165                 170                 175
Phe Ile Asp Lys Val Arg Phe Leu Glu Gln Gln Asn Lys Val Leu Asp
            180                 185                 190
```

```
Thr Lys Trp Thr Leu Leu Gln Glu Gln Gly Thr Lys Thr Val Arg Gln
        195                 200                 205
Asn Leu Glu Pro Leu Phe Glu Gln Tyr Ile Asn Asn Leu Arg Arg Gln
    210                 215                 220
Leu Asp Asn Ile Val Gly Glu Arg Gly Arg Leu Asp Ser Glu Leu Arg
225                 230                 235                 240
Asn Met Gln Asp Leu Val Glu Asp Leu Lys Asn Lys Tyr Glu Asp Glu
                245                 250                 255
Ile Asn Lys Arg Thr Ala Ala Glu Asn Glu Phe Val Thr Leu Lys Lys
            260                 265                 270
Asp Val Asp Ala Ala Tyr Met Asn Lys Val Glu Leu Gln Ala Lys Ala
        275                 280                 285
Asp Thr Leu Thr Asp Glu Ile Asn Phe Leu Arg Ala Leu Tyr Asp Ala
    290                 295                 300
Glu Leu Ser Gln Met Gln Thr His Ile Ser Asp Thr Ser Val Val Leu
305                 310                 315                 320
Ser Met Asp Asn Asn Arg Asn Leu Asp Leu Asp Ser Ile Ile Ala Glu
                325                 330                 335
Val Lys Ala Gln Tyr Glu Glu Ile Ala Gln Arg Ser Arg Ala Glu Ala
            340                 345                 350
Glu Ser Trp Tyr Gln Thr Lys Tyr Glu Glu Leu Gln Val Thr Ala Gly
        355                 360                 365
Arg His Gly Asp Asp Leu Arg Asn Thr Lys Gln Glu Ile Ala Glu Ile
    370                 375                 380
Asn Arg Met Ile Gln Arg Leu Arg Ser Glu Ile Asp His Val Lys Lys
385                 390                 395                 400
Gln Cys Ala Ser Leu Gln Ala Ala Ile Ala Asp Ala Glu Gln Arg Gly
                405                 410                 415
Glu Met Ala Leu Lys Asp Ala Lys Asn Lys Leu Glu Gly Leu Glu Asp
            420                 425                 430
Ala Leu Gln Lys Ala Lys Gln Asp Leu Ala Arg Leu Leu Lys Glu Tyr
        435                 440                 445
Gln Glu Leu Met Asn Val Lys Leu Ala Leu Asp Val Glu Ile Ala Thr
    450                 455                 460
Tyr Arg Lys Leu Leu Glu Gly Glu Glu Cys Arg Leu Asn Gly Glu Gly
465                 470                 475                 480
Ile Gly Gln Val Asn Val Ser Val Val Gln Ser Thr Ile Ser Ser Gly
                485                 490                 495
Tyr Gly Gly Ala Ser Gly Val Gly Ser Gly Leu Gly Leu Gly Gly Gly
            500                 505                 510
Ser Ser Tyr Ser Tyr Gly Ser Gly Leu Gly Ile Gly Gly Gly Phe Ser
        515                 520                 525
Ser Ser Ser Gly Arg Ala Ile Gly Gly Gly Leu Ser Ser Val Gly Gly
    530                 535                 540
Gly Ser Ser Thr Ile Lys Tyr Thr Thr Thr Ser Ser Ser Ser Arg Lys
545                 550                 555                 560
Ser Tyr Lys His

<210>  455

<211>  564

<212>  PRT

<213>  Homo sapiens


<400>  455
Met Ala Ser Thr Ser Thr Thr Ile Arg Ser His Ser Ser Ser Arg Arg
1               5                   10                  15
Gly Phe Ser Ala Asn Ser Ala Arg Leu Pro Gly Val Ser Arg Ser Gly
            20                  25                  30
Phe Ser Ser Ile Ser Val Ser Arg Ser Arg Gly Ser Gly Gly Leu Gly
        35                  40                  45
```

```
Gly Ala Cys Gly Gly Ala Gly Phe Gly Ser Arg Ser Leu Tyr Gly Leu
    50                  55                  60
Gly Gly Ser Lys Arg Ile Ser Ile Gly Gly Gly Ser Cys Ala Ile Ser
65                  70                  75                  80
Gly Gly Tyr Gly Ser Arg Ala Arg Ala Ser Tyr Gly Phe Gly Gly Ala
                85                  90                  95
Gly Ser Gly Phe Gly Phe Gly Gly Gly Ala Gly Ile Gly Phe Asp Leu
            100                 105                 110
Gly Gly Gly Ala Gly Leu Ala Gly Gly Phe Gly Gly Pro Gly Phe Pro
        115                 120                 125
Val Cys Pro Pro Gly Gly Ile Gln Glu Val Thr Val Asn Gln Ser Leu
    130                 135                 140
Leu Thr Pro Leu Asn Leu Gln Ile Asp Pro Ala Ile Gln Arg Val Arg
145                 150                 155                 160
Ala Glu Glu Arg Glu Gln Ile Lys Thr Leu Asn Asn Lys Phe Ala Ser
                165                 170                 175
Phe Ile Asp Lys Val Arg Phe Leu Glu Gln Gln Asn Lys Val Leu Glu
            180                 185                 190
Thr Lys Trp Thr Leu Leu Gln Glu Gln Gly Thr Lys Thr Val Arg Gln
        195                 200                 205
Asn Leu Glu Pro Leu Phe Glu Gln Tyr Ile Asn Asn Leu Arg Arg Gln
    210                 215                 220
Leu Asp Ser Ile Val Gly Glu Arg Gly Arg Leu Asp Ser Glu Leu Arg
225                 230                 235                 240
Gly Met Gln Asp Leu Val Glu Asp Phe Lys Asn Lys Tyr Glu Asp Glu
                245                 250                 255
Ile Asn Lys Arg Thr Ala Ala Glu Asn Glu Phe Val Thr Leu Lys Lys
            260                 265                 270
Asp Val Asp Ala Ala Tyr Met Asn Lys Val Glu Leu Gln Ala Lys Ala
        275                 280                 285
Asp Thr Leu Thr Asp Glu Ile Asn Phe Leu Arg Ala Leu Tyr Asp Ala
    290                 295                 300
Glu Leu Ser Gln Met Gln Thr His Ile Ser Asp Thr Ser Val Val Leu
305                 310                 315                 320
Ser Met Asp Asn Asn Arg Asn Leu Asp Leu Asp Ser Ile Ile Ala Glu
                325                 330                 335
Val Lys Ala Gln Tyr Glu Glu Ile Ala Gln Arg Ser Arg Ala Glu Ala
            340                 345                 350
Glu Ser Trp Tyr Gln Thr Lys Tyr Glu Glu Leu Gln Val Thr Ala Gly
        355                 360                 365
Arg His Gly Asp Asp Leu Arg Asn Thr Lys Gln Glu Ile Ala Glu Ile
    370                 375                 380
Asn Arg Met Ile Gln Arg Leu Arg Ser Glu Ile Asp His Val Lys Lys
385                 390                 395                 400
Gln Cys Ala Asn Leu Gln Ala Ala Ile Ala Asp Ala Glu Gln Arg Gly
                405                 410                 415
Glu Met Ala Leu Lys Asp Ala Lys Asn Lys Leu Glu Gly Leu Glu Asp
            420                 425                 430
Ala Leu Gln Lys Ala Lys Gln Asp Leu Ala Arg Leu Leu Lys Glu Tyr
        435                 440                 445
Gln Glu Leu Met Asn Val Lys Leu Ala Leu Asp Val Glu Ile Ala Thr
    450                 455                 460
Tyr Arg Lys Leu Leu Glu Gly Glu Glu Cys Arg Leu Asn Gly Glu Gly
465                 470                 475                 480
Val Gly Gln Val Asn Ile Ser Val Val Gln Ser Thr Val Ser Ser Gly
                485                 490                 495
Tyr Gly Gly Ala Ser Gly Val Gly Ser Gly Leu Gly Leu Gly Gly Gly
            500                 505                 510
Ser Ser Tyr Ser Tyr Gly Ser Gly Leu Gly Val Gly Gly Gly Phe Ser
        515                 520                 525
Ser Ser Ser Gly Arg Ala Ile Gly Gly Gly Leu Ser Ser Val Gly Gly
    530                 535                 540
Gly Ser Ser Thr Ile Lys Tyr Thr Thr Thr Ser Ser Ser Ser Arg Lys
545                 550                 555                 560
Ser Tyr Lys His
```

<210> 456

<211> 564

<212> PRT

<213> Homo sapiens

<400> 456

```
Met Ala Ser Thr Ser Thr Thr Ile Arg Ser His Ser Ser Ser Arg Arg
1               5                  10                  15
Gly Phe Ser Ala Asn Ser Ala Arg Leu Pro Gly Val Ser Arg Ser Gly
            20                  25                  30
Phe Ser Ser Val Ser Val Ser Arg Ser Arg Gly Ser Gly Gly Leu Gly
        35                  40                  45
Gly Ala Cys Gly Gly Ala Gly Phe Gly Ser Arg Ser Leu Tyr Gly Leu
    50                  55                  60
Gly Gly Ser Lys Arg Ile Ser Ile Gly Gly Gly Ser Cys Ala Ile Ser
65                  70                  75                  80
Gly Gly Tyr Gly Ser Arg Ala Gly Gly Ser Tyr Gly Phe Gly Gly Ala
                85                  90                  95
Gly Ser Gly Phe Gly Phe Gly Gly Gly Ala Gly Ile Gly Phe Gly Leu
            100                 105                 110
Gly Gly Gly Ala Gly Leu Ala Gly Gly Phe Gly Gly Pro Gly Phe Pro
        115                 120                 125
Val Cys Pro Pro Gly Gly Ile Gln Glu Val Thr Val Asn Gln Ser Leu
    130                 135                 140
Leu Thr Pro Leu Asn Leu Gln Ile Asp Pro Thr Ile Gln Arg Val Arg
145                 150                 155                 160
Ala Glu Glu Arg Glu Gln Ile Lys Thr Leu Asn Asn Lys Phe Ala Ser
                165                 170                 175
Phe Ile Asp Lys Val Arg Phe Leu Glu Gln Gln Asn Lys Val Leu Glu
            180                 185                 190
Thr Lys Trp Thr Leu Leu Gln Glu Gln Gly Thr Lys Thr Val Arg Gln
        195                 200                 205
Asn Leu Glu Pro Leu Phe Glu Gln Tyr Ile Asn Asn Leu Arg Arg Gln
    210                 215                 220
Leu Asp Ser Ile Val Gly Glu Arg Gly Arg Leu Asp Ser Glu Leu Arg
225                 230                 235                 240
Gly Met Gln Asp Leu Val Glu Asp Phe Lys Asn Lys Tyr Glu Asp Glu
                245                 250                 255
Ile Asn Lys Arg Thr Ala Ala Glu Asn Glu Phe Val Thr Leu Lys Lys
            260                 265                 270
Asp Val Asp Ala Ala Tyr Met Asn Lys Val Glu Leu Gln Ala Lys Ala
        275                 280                 285
Asp Thr Leu Thr Asp Glu Ile Asn Phe Leu Arg Ala Leu Tyr Asp Ala
    290                 295                 300
Glu Leu Ser Gln Met Gln Thr His Ile Ser Asp Thr Ser Val Val Leu
305                 310                 315                 320
Ser Met Asp Asn Asn Arg Asn Leu Asp Leu Asp Ser Ile Ile Ala Glu
                325                 330                 335
Val Lys Ala Gln Tyr Glu Glu Ile Ala Gln Arg Ser Arg Ala Glu Ala
            340                 345                 350
Glu Ser Trp Tyr Gln Thr Lys Tyr Glu Glu Leu Gln Val Thr Ala Gly
        355                 360                 365
Arg His Gly Asp Asp Leu Arg Asn Thr Lys Gln Glu Ile Ala Glu Ile
    370                 375                 380
Asn Arg Met Ile Gln Arg Leu Arg Ser Glu Ile Asp His Val Lys Lys
385                 390                 395                 400
Gln Cys Ala Asn Leu Gln Ala Ala Ile Ala Asp Ala Glu Gln Arg Gly
                405                 410                 415
Glu Met Ala Leu Lys Asp Ala Lys Asn Lys Leu Glu Gly Leu Glu Asp
            420                 425                 430
```

```
Ala Leu Gln Lys Ala Lys Gln Asp Leu Ala Arg Leu Leu Lys Glu Tyr
        435                 440                 445
Gln Glu Leu Met Asn Val Lys Leu Ala Leu Asp Val Glu Ile Ala Thr
    450                 455                 460
Tyr Arg Lys Leu Leu Glu Gly Glu Glu Cys Arg Leu Asn Gly Glu Gly
465                 470                 475                 480
Val Gly Gln Val Asn Ile Ser Val Val Gln Ser Thr Val Ser Ser Gly
                485                 490                 495
Tyr Gly Gly Ala Ser Gly Val Gly Ser Gly Leu Gly Leu Gly Gly Gly
            500                 505                 510
Ser Ser Tyr Ser Tyr Gly Ser Gly Leu Gly Val Gly Gly Gly Phe Ser
        515                 520                 525
Ser Ser Ser Gly Arg Ala Ile Gly Gly Gly Leu Ser Ser Val Gly Gly
    530                 535                 540
Gly Ser Ser Thr Ile Lys Tyr Thr Thr Thr Ser Ser Ser Ser Arg Lys
545                 550                 555                 560
Ser Tyr Lys His
```

<210> 457

<211> 590

<212> PRT

<213> Homo sapiens

<400> 457

```
Met Ser Arg Gln Ser Ser Val Ser Phe Arg Ser Gly Gly Ser Arg Ser
1               5                   10                  15
Phe Ser Thr Ala Ser Ala Ile Thr Pro Ser Val Ser Arg Thr Ser Phe
            20                  25                  30
Thr Ser Val Ser Arg Ser Gly Gly Gly Gly Gly Gly Gly Phe Gly Arg
        35                  40                  45
Val Ser Leu Ala Gly Ala Cys Gly Val Gly Gly Tyr Gly Ser Arg Ser
    50                  55                  60
Leu Tyr Asn Leu Gly Gly Ser Lys Arg Ile Ser Ile Ser Thr Arg Gly
65                  70                  75                  80
Gly Ser Phe Arg Asn Arg Phe Gly Ala Gly Ala Gly Gly Gly Tyr Gly
                85                  90                  95
Phe Gly Gly Gly Ala Gly Ser Gly Phe Gly Phe Gly Gly Gly Ala Gly
            100                 105                 110
Gly Gly Phe Gly Leu Gly Gly Gly Ala Gly Phe Gly Gly Gly Phe Gly
        115                 120                 125
Gly Pro Gly Phe Pro Val Cys Pro Pro Gly Gly Ile Gln Glu Val Thr
    130                 135                 140
Val Asn Gln Ser Leu Leu Thr Pro Leu Asn Leu Gln Ile Asp Pro Ser
145                 150                 155                 160
Ile Gln Arg Val Arg Thr Glu Glu Arg Glu Gln Ile Lys Thr Leu Asn
                165                 170                 175
Asn Lys Phe Ala Ser Phe Ile Asp Lys Val Arg Phe Leu Glu Gln Gln
            180                 185                 190
Asn Lys Val Leu Asp Thr Lys Trp Thr Leu Leu Gln Glu Gln Gly Thr
        195                 200                 205
Lys Thr Val Arg Gln Asn Leu Glu Pro Leu Phe Glu Gln Tyr Ile Asn
    210                 215                 220
Asn Leu Arg Arg Gln Leu Asp Ser Ile Val Gly Glu Arg Gly Arg Leu
225                 230                 235                 240
Asp Ser Glu Leu Arg Asn Met Gln Asp Leu Val Glu Asp Phe Lys Asn
                245                 250                 255
Lys Tyr Glu Asp Glu Ile Asn Lys Arg Thr Thr Ala Glu Asn Glu Phe
            260                 265                 270
Val Met Leu Lys Lys Asp Val Asp Ala Ala Tyr Met Asn Lys Val Glu
        275                 280                 285
```

```
Leu Glu Ala Lys Val Asp Ala Leu Met Asp Glu Ile Asn Phe Met Lys
    290                 295                 300
Met Phe Phe Asp Ala Glu Leu Ser Gln Met Gln Thr His Val Ser Asp
305                 310                 315                 320
Thr Ser Val Val Leu Ser Met Asp Asn Asn Arg Asn Leu Asp Leu Asp
                325                 330                 335
Ser Ile Ile Ala Glu Val Lys Ala Gln Tyr Glu Glu Ile Ala Asn Arg
            340                 345                 350
Ser Arg Thr Glu Ala Glu Ser Trp Tyr Gln Thr Lys Tyr Glu Glu Leu
        355                 360                 365
Gln Gln Thr Ala Gly Arg His Gly Asp Asp Leu Arg Asn Thr Lys His
    370                 375                 380
Glu Ile Thr Glu Met Asn Arg Met Ile Gln Arg Leu Arg Ala Glu Ile
385                 390                 395                 400
Asp Asn Val Lys Lys Gln Cys Ala Asn Leu Gln Asn Ala Ile Ala Asp
                405                 410                 415
Ala Glu Gln Arg Gly Glu Leu Ala Leu Lys Asp Ala Arg Asn Lys Leu
            420                 425                 430
Ala Glu Leu Glu Glu Ala Leu Gln Lys Ala Lys Gln Asp Met Ala Arg
        435                 440                 445
Leu Leu Arg Glu Tyr Gln Glu Leu Met Asn Thr Lys Leu Ala Leu Asp
    450                 455                 460
Val Glu Ile Ala Thr Tyr Arg Lys Leu Leu Glu Gly Glu Glu Cys Arg
465                 470                 475                 480
Leu Ser Gly Glu Gly Val Gly Pro Val Asn Ile Ser Val Val Thr Ser
                485                 490                 495
Ser Val Ser Ser Gly Tyr Gly Ser Gly Ser Gly Tyr Gly Gly Gly Leu
            500                 505                 510
Gly Gly Gly Leu Gly Gly Gly Leu Gly Gly Gly Leu Ala Gly Gly Ser
        515                 520                 525
Ser Gly Ser Tyr Tyr Ser Ser Ser Ser Gly Gly Val Gly Leu Gly Gly
    530                 535                 540
Gly Leu Ser Val Gly Gly Ser Gly Phe Ser Ala Ser Ser Gly Arg Gly
545                 550                 555                 560
Leu Gly Val Gly Phe Gly Ser Gly Gly Gly Ser Ser Ser Ser Val Lys
                565                 570                 575
Phe Val Ser Thr Thr Ser Ser Ser Arg Lys Ser Phe Lys Ser
            580                 585                 590
<210>  458

<211>  523

<212>  PRT

<213>  Homo sapiens


<400>  458
Met Ser Arg Gln Phe Thr Cys Lys Ser Gly Ala Ala Ala Lys Gly Gly
1               5                   10                  15
Phe Ser Gly Cys Ser Ala Val Leu Ser Gly Gly Ser Ser Ser Ser Phe
            20                  25                  30
Arg Ala Gly Ser Lys Gly Leu Ser Gly Gly Phe Gly Ser Arg Ser Leu
        35                  40                  45
Tyr Ser Leu Gly Gly Val Arg Ser Leu Asn Val Ala Ser Gly Ser Gly
    50                  55                  60
Lys Ser Gly Gly Tyr Gly Phe Gly Arg Gly Arg Ala Ser Gly Phe Ala
65                  70                  75                  80
Gly Ser Met Phe Gly Ser Val Ala Leu Gly Pro Val Cys Pro Thr Val
                85                  90                  95
Cys Pro Pro Gly Gly Ile His Gln Val Thr Val Asn Glu Ser Leu Leu
            100                 105                 110
Ala Pro Leu Asn Val Glu Leu Asp Pro Glu Ile Gln Lys Val Arg Ala
        115                 120                 125
```

```
Gln Glu Arg Glu Gln Ile Lys Ala Leu Asn Asn Lys Phe Ala Ser Phe
    130                 135                 140
Ile Asp Lys Val Arg Phe Leu Glu Gln Gln Asn Gln Val Leu Glu Thr
145                 150                 155                 160
Lys Trp Glu Leu Leu Gln Gln Leu Asp Leu Asn Asn Cys Lys Asn Asn
                165                 170                 175
Leu Glu Pro Ile Leu Glu Gly Tyr Ile Ser Asn Leu Arg Lys Gln Leu
            180                 185                 190
Glu Thr Leu Ser Gly Asp Arg Val Arg Leu Asp Ser Glu Leu Arg Asn
        195                 200                 205
Val Arg Asp Val Val Glu Asp Tyr Lys Lys Arg Tyr Glu Glu Glu Ile
    210                 215                 220
Asn Lys Arg Thr Ala Ala Glu Asn Glu Phe Val Leu Leu Lys Lys Asp
225                 230                 235                 240
Val Asp Ala Ala Tyr Ala Asn Lys Val Glu Leu Gln Ala Lys Val Glu
                245                 250                 255
Ser Met Asp Gln Glu Ile Lys Phe Phe Arg Cys Leu Phe Glu Ala Glu
            260                 265                 270
Ile Thr Gln Ile Gln Ser His Ile Ser Asp Met Ser Val Ile Leu Ser
        275                 280                 285
Met Asp Asn Asn Arg Asn Leu Asp Leu Asp Ser Ile Ile Asp Glu Val
    290                 295                 300
Arg Thr Gln Tyr Glu Glu Ile Ala Leu Lys Ser Lys Ala Glu Ala Glu
305                 310                 315                 320
Ala Leu Tyr Gln Thr Lys Phe Gln Glu Leu Gln Leu Ala Ala Gly Arg
                325                 330                 335
His Gly Asp Asp Leu Lys Asn Thr Lys Asn Glu Ile Ser Glu Leu Thr
            340                 345                 350
Arg Leu Ile Gln Arg Ile Arg Ser Glu Ile Glu Asn Val Lys Lys Gln
        355                 360                 365
Ala Ser Asn Leu Glu Thr Ala Ile Ala Asp Ala Glu Gln Arg Gly Asp
    370                 375                 380
Asn Ala Leu Lys Asp Ala Arg Ala Lys Leu Asp Glu Leu Glu Gly Ala
385                 390                 395                 400
Leu His Gln Ala Lys Glu Glu Leu Ala Arg Met Leu Arg Glu Tyr Gln
                405                 410                 415
Glu Leu Met Ser Leu Lys Leu Ala Leu Asp Met Glu Ile Ala Thr Tyr
            420                 425                 430
Arg Lys Leu Leu Glu Ser Glu Glu Cys Arg Met Ser Gly Glu Phe Pro
        435                 440                 445
Ser Pro Val Ser Ile Ser Ile Ile Ser Ser Thr Ser Gly Gly Ser Val
    450                 455                 460
Tyr Gly Phe Arg Pro Ser Met Val Ser Gly Gly Tyr Val Ala Asn Ser
465                 470                 475                 480
Ser Asn Cys Ile Ser Gly Val Cys Ser Val Arg Gly Gly Glu Gly Arg
                485                 490                 495
Ser Arg Gly Ser Ala Asn Asp Tyr Lys Asp Thr Leu Gly Lys Gly Ser
            500                 505                 510
Ser Leu Ser Ala Pro Ser Lys Lys Thr Ser Arg
        515                 520
<210>  459

<211>  529

<212>  PRT

<213>  Homo sapiens


<400>  459
Met Ser Arg Gln Leu Asn Ile Lys Ser Ser Gly Asp Lys Gly Asn Phe
1               5                   10                  15
Ser Val His Ser Ala Val Val Pro Arg Lys Ala Val Gly Ser Leu Ala
            20                  25                  30
```

Ser Tyr Cys Ala Ala Gly Arg Gly Ala Gly Ala Gly Phe Gly Ser Arg
35 40 45
Ser Leu Tyr Ser Leu Gly Gly Asn Arg Arg Ile Ser Phe Asn Val Ala
50 55 60
Gly Gly Gly Val Arg Ala Gly Gly Tyr Gly Phe Arg Pro Gly Ser Gly
65 70 75 80
Tyr Gly Gly Gly Arg Ala Ser Gly Phe Ala Gly Ser Met Phe Gly Ser
85 90 95
Val Ala Leu Gly Pro Ala Cys Leu Ser Val Cys Pro Pro Gly Gly Ile
100 105 110
His Gln Val Thr Val Asn Lys Ser Leu Leu Ala Pro Leu Asn Val Glu
115 120 125
Leu Asp Pro Glu Ile Gln Lys Val Arg Ala Gln Glu Arg Glu Gln Ile
130 135 140
Lys Val Leu Asn Asp Lys Phe Ala Ser Phe Ile Asp Lys Val Arg Phe
145 150 155 160
Leu Glu Gln Gln Asn Gln Val Leu Glu Thr Lys Trp Glu Leu Leu Gln
165 170 175
Gln Leu Asp Leu Asn Asn Cys Lys Lys Asn Leu Glu Pro Ile Leu Glu
180 185 190
Gly Tyr Ile Ser Asn Leu Arg Lys Gln Leu Glu Thr Leu Ser Gly Asp
195 200 205
Arg Val Arg Leu Asp Ser Glu Leu Arg Ser Met Arg Asp Leu Val Glu
210 215 220
Asp Tyr Lys Lys Arg Tyr Glu Val Glu Ile Asn Arg Arg Thr Thr Ala
225 230 235 240
Glu Asn Glu Phe Val Val Leu Lys Lys Asp Ala Asp Ala Ala Tyr Ala
245 250 255
Val Lys Val Glu Leu Gln Ala Lys Val Asp Ser Leu Asp Lys Asp Ile
260 265 270
Lys Phe Leu Lys Cys Leu Tyr Asp Ala Glu Ile Ala Gln Ile Gln Thr
275 280 285
His Ala Ser Glu Thr Ser Val Ile Leu Ser Met Asp Asn Asn Arg Asp
290 295 300
Leu Asp Leu Asp Ser Ile Ile Ala Glu Val Arg Met His Tyr Glu Glu
305 310 315 320
Ile Ala Leu Lys Ser Lys Ala Glu Ala Glu Ala Leu Tyr Gln Thr Lys
325 330 335
Ile Gln Glu Leu Gln Leu Ala Ala Ser Arg His Gly Asp Asp Leu Lys
340 345 350
His Thr Arg Ser Glu Met Val Glu Leu Asn Arg Leu Ile Gln Arg Ile
355 360 365
Arg Cys Glu Ile Gly Asn Val Lys Lys Gln Arg Ala Ser Leu Glu Thr
370 375 380
Ala Ile Ala Asp Ala Glu Gln Arg Gly Asp Asn Ala Leu Lys Asp Ala
385 390 395 400
Gln Ala Lys Leu Asp Glu Leu Glu Gly Ala Leu His Gln Ala Lys Glu
405 410 415
Glu Leu Ala Arg Met Leu Arg Glu Tyr Gln Glu Leu Met Ser Leu Lys
420 425 430
Leu Ala Leu Asp Met Glu Ile Ala Thr Tyr Arg Lys Leu Leu Glu Gly
435 440 445
Glu Glu Cys Arg Met Ser Gly Glu Asn Pro Ser Ser Val Ser Ile Ser
450 455 460
Val Ile Ser Ser Ser Ser Tyr Ser Tyr His His Pro Ser Ser Ala Gly
465 470 475 480
Val Asp Leu Gly Ala Ser Ala Val Ala Gly Ser Ser Gly Ser Thr Gln
485 490 495
Ser Gly Gln Thr Lys Thr Thr Glu Ala Arg Gly Gly Asp Leu Lys Asp
500 505 510
Thr Gln Gly Lys Ser Thr Pro Ala Ser Ile Pro Ala Arg Lys Ala Thr
515 520 525
Arg

<210> 460

<211> 511

<212> PRT

<213> Homo sapiens

<400> 460

```
Met Ser Arg Gln Leu Thr His Phe Pro Arg Gly Glu Arg Leu Gly Phe
1               5                  10                  15
Ser Gly Cys Ser Ala Val Leu Ser Gly Gly Ile Gly Ser Ser Ser Ala
            20                  25                  30
Ser Phe Arg Ala Arg Val Lys Gly Ser Ala Ser Phe Gly Ser Lys Ser
        35                  40                  45
Leu Ser Cys Leu Gly Gly Ser Arg Ser Leu Ala Leu Ser Ala Ala Ala
    50                  55                  60
Arg Arg Gly Gly Gly Arg Leu Gly Gly Phe Val Gly Thr Ala Phe Gly
65                  70                  75                  80
Ser Ala Gly Leu Gly Pro Lys Cys Pro Ser Val Cys Pro Pro Gly Gly
                85                  90                  95
Ile Pro Gln Val Thr Val Asn Lys Ser Leu Leu Ala Pro Leu Asn Val
            100                 105                 110
Glu Met Asp Pro Glu Ile Gln Arg Val Arg Ala Gln Glu Arg Glu Gln
        115                 120                 125
Ile Lys Ala Leu Asn Asn Lys Phe Ala Ser Phe Ile Asp Lys Val Arg
    130                 135                 140
Phe Leu Glu Gln Gln Asn Gln Val Leu Glu Thr Lys Trp Asn Leu Leu
145                 150                 155                 160
Gln Gln Leu Asp Leu Asn Asn Cys Arg Lys Asn Leu Glu Pro Ile Tyr
                165                 170                 175
Glu Gly Tyr Ile Ser Asn Leu Gln Lys Gln Leu Glu Met Leu Ser Gly
            180                 185                 190
Asp Gly Val Arg Leu Asp Ser Glu Leu Arg Asn Met Gln Asp Leu Val
        195                 200                 205
Glu Asp Tyr Lys Lys Arg Tyr Glu Val Glu Ile Asn Arg Arg Thr Ala
    210                 215                 220
Ala Glu Asn Glu Phe Val Val Leu Lys Lys Asp Val Asp Ala Ala Tyr
225                 230                 235                 240
Met Asn Lys Val Glu Leu Gln Ala Lys Val Asp Ser Leu Thr Asp Glu
                245                 250                 255
Ile Lys Phe Phe Lys Cys Leu Tyr Glu Gly Glu Ile Thr Gln Ile Gln
            260                 265                 270
Ser His Ile Ser Asp Thr Ser Ile Val Leu Ser Met Asp Asn Asn Arg
        275                 280                 285
Asp Leu Asp Leu Asp Ser Ile Ile Ala Glu Val Arg Ala Gln Tyr Glu
    290                 295                 300
Glu Ile Ala Leu Lys Ser Lys Ala Glu Ala Glu Thr Leu Tyr Gln Thr
305                 310                 315                 320
Lys Ile Gln Glu Leu Gln Val Thr Ala Gly Gln His Gly Asp Asp Leu
                325                 330                 335
Lys Leu Thr Lys Ala Glu Ile Ser Glu Leu Asn Arg Leu Ile Gln Arg
            340                 345                 350
Ile Arg Ser Glu Ile Gly Asn Val Lys Lys Gln Cys Ala Asp Leu Glu
        355                 360                 365
Thr Ala Ile Ala Asp Ala Glu Gln Arg Gly Asp Cys Ala Leu Lys Asp
    370                 375                 380
Ala Arg Ala Lys Leu Asp Glu Leu Glu Gly Ala Leu His Gln Ala Lys
385                 390                 395                 400
Glu Glu Leu Ala Arg Met Leu Arg Glu Tyr Gln Glu Leu Val Ser Leu
                405                 410                 415
Lys Leu Ala Leu Asp Met Glu Ile Ala Thr Tyr Arg Lys Leu Leu Glu
            420                 425                 430
Ser Glu Glu Cys Arg Met Ser Gly Glu Tyr Pro Asn Ser Val Ser Ile
        435                 440                 445
```

```
Ser Val Ile Ser Ser Thr Asn Ala Gly Ala Gly Gly Ala Gly Phe Ser
    450                 455                 460
Met Gly Phe Gly Ala Ser Ser Ser Tyr Ser Tyr Lys Thr Ala Ala Ala
465                 470                 475                 480
Asp Val Lys Thr Lys Gly Ser Cys Gly Ser Glu Leu Lys Asp Pro Leu
                485                 490                 495
Ala Lys Thr Ser Gly Ser Ser Cys Ala Thr Lys Lys Ala Ser Arg
            500                 505                 510
```

<210> 461

<211> 540

<212> PRT

<213> Homo sapiens

<400> 461

```
Met Ser Arg Gln Phe Thr Tyr Lys Ser Gly Ala Ala Ala Lys Gly Gly
1               5                   10                  15
Phe Ser Gly Cys Ser Ala Val Leu Ser Gly Gly Ser Ser Ser Ser Tyr
            20                  25                  30
Arg Ala Gly Gly Lys Gly Leu Ser Gly Gly Phe Ser Ser Arg Ser Leu
        35                  40                  45
Tyr Ser Leu Gly Gly Ala Arg Ser Ile Ser Phe Asn Val Ala Ser Gly
    50                  55                  60
Ser Gly Trp Ala Gly Gly Tyr Gly Phe Gly Arg Gly Arg Ala Ser Gly
65                  70                  75                  80
Phe Ala Gly Ser Met Phe Gly Ser Val Ala Leu Gly Ser Val Cys Pro
                85                  90                  95
Ser Leu Cys Pro Pro Gly Gly Ile His Gln Val Thr Ile Asn Lys Ser
            100                 105                 110
Leu Leu Ala Pro Leu Asn Val Glu Leu Asp Pro Glu Ile Gln Lys Val
        115                 120                 125
Arg Ala Gln Glu Arg Glu Gln Ile Lys Val Leu Asn Asn Lys Phe Ala
    130                 135                 140
Ser Phe Ile Asp Lys Val Arg Phe Leu Glu Gln Gln Asn Gln Val Leu
145                 150                 155                 160
Glu Thr Lys Trp Glu Leu Leu Gln Gln Leu Asp Leu Asn Asn Cys Lys
                165                 170                 175
Asn Asn Leu Glu Pro Ile Leu Glu Gly Tyr Ile Ser Asn Leu Arg Lys
            180                 185                 190
Gln Leu Glu Thr Leu Ser Gly Asp Arg Val Arg Leu Asp Ser Glu Leu
        195                 200                 205
Arg Ser Val Arg Glu Val Val Glu Asp Tyr Lys Lys Arg Tyr Glu Glu
    210                 215                 220
Glu Ile Asn Lys Arg Thr Thr Ala Glu Asn Glu Phe Val Val Leu Lys
225                 230                 235                 240
Lys Asp Val Asp Ala Ala Tyr Thr Ser Lys Val Glu Leu Gln Ala Lys
                245                 250                 255
Val Asp Ala Leu Asp Gly Glu Ile Lys Phe Phe Lys Cys Leu Tyr Glu
            260                 265                 270
Gly Glu Thr Ala Gln Ile Gln Ser His Ile Ser Asp Thr Ser Ile Ile
        275                 280                 285
Leu Ser Met Asp Asn Asn Arg Asn Leu Asp Leu Asp Ser Ile Ile Ala
    290                 295                 300
Glu Val Arg Ala Gln Tyr Glu Glu Ile Ala Arg Lys Ser Lys Ala Glu
305                 310                 315                 320
Ala Glu Ala Leu Tyr Gln Thr Lys Phe Gln Glu Leu Gln Leu Ala Ala
                325                 330                 335
Gly Arg His Gly Asp Asp Leu Lys His Thr Lys Asn Glu Ile Ser Glu
            340                 345                 350
Leu Thr Arg Leu Ile Gln Arg Leu Arg Ser Glu Ile Glu Ser Val Lys
        355                 360                 365
```

Lys Gln Cys Ala Asn Leu Glu Thr Ala Ile Ala Asp Ala Glu Gln Arg
370 375 380
Gly Asp Cys Ala Leu Lys Asp Ala Arg Ala Lys Leu Asp Glu Leu Glu
385 390 395 400
Gly Ala Leu Gln Gln Ala Lys Glu Glu Leu Ala Arg Met Leu Arg Glu
405 410 415
Tyr Gln Glu Leu Leu Ser Val Lys Leu Ser Leu Asp Ile Glu Ile Ala
420 425 430
Thr Tyr Arg Lys Leu Leu Glu Gly Glu Glu Cys Arg Met Ser Gly Glu
435 440 445
Tyr Thr Asn Ser Val Ser Ile Ser Val Ile Asn Ser Ser Met Ala Gly
450 455 460
Met Ala Gly Thr Gly Ala Gly Phe Gly Phe Ser Asn Ala Gly Thr Tyr
465 470 475 480
Gly Tyr Trp Pro Ser Ser Val Ser Gly Gly Tyr Ser Met Leu Pro Gly
485 490 495
Gly Cys Val Thr Gly Ser Gly Asn Cys Ser Pro Arg Gly Glu Ala Arg
500 505 510
Thr Arg Leu Gly Ser Ala Ser Glu Phe Arg Asp Ser Gln Gly Lys Thr
515 520 525
Leu Ala Leu Ser Ser Pro Thr Lys Lys Thr Met Arg
530 535 540

<210> 462

<211> 645

<212> PRT

<213> Homo sapiens

<400> 462
Met Ser Cys Gln Ile Ser Cys Lys Ser Arg Gly Arg Gly Gly Gly Gly
1 5 10 15
Gly Gly Phe Arg Gly Phe Ser Ser Gly Ser Ala Val Val Ser Gly Gly
20 25 30
Ser Arg Arg Ser Thr Ser Ser Phe Ser Cys Leu Ser Arg His Gly Gly
35 40 45
Gly Gly Gly Gly Phe Gly Gly Gly Gly Phe Gly Ser Arg Ser Leu Val
50 55 60
Gly Leu Gly Gly Thr Lys Ser Ile Ser Ile Ser Val Ala Gly Gly Gly
65 70 75 80
Gly Gly Phe Gly Ala Ala Gly Gly Phe Gly Gly Arg Gly Gly Gly Phe
85 90 95
Gly Gly Gly Ser Gly Phe Gly Gly Gly Ser Gly Phe Gly Gly Gly Ser
100 105 110
Gly Phe Ser Gly Gly Gly Phe Gly Gly Gly Gly Phe Gly Gly Gly Arg
115 120 125
Phe Gly Gly Phe Gly Gly Pro Gly Gly Val Gly Gly Leu Gly Gly Pro
130 135 140
Gly Gly Phe Gly Pro Gly Gly Tyr Pro Gly Gly Ile His Glu Val Ser
145 150 155 160
Val Asn Gln Ser Leu Leu Gln Pro Leu Asn Val Lys Val Asp Pro Glu
165 170 175
Ile Gln Asn Val Lys Ala Gln Glu Arg Glu Gln Ile Lys Thr Leu Asn
180 185 190
Asn Lys Phe Ala Ser Phe Ile Asp Lys Val Arg Phe Leu Glu Gln Gln
195 200 205
Asn Gln Val Leu Gln Thr Lys Trp Glu Leu Leu Gln Gln Met Asn Val
210 215 220
Gly Thr Arg Pro Ile Asn Leu Glu Pro Ile Phe Gln Gly Tyr Ile Asp
225 230 235 240
Ser Leu Lys Arg Tyr Leu Asp Gly Leu Thr Ala Glu Arg Thr Ser Gln
245 250 255

```
Asn Ser Glu Leu Asn Asn Met Gln Asp Leu Val Glu Asp Tyr Lys Lys
            260                 265                 270
Lys Tyr Glu Asp Glu Ile Asn Lys Arg Thr Ala Ala Glu Asn Asp Phe
        275                 280                 285
Val Thr Leu Lys Lys Asp Val Asp Asn Ala Tyr Met Ile Lys Val Glu
    290                 295                 300
Leu Gln Ser Lys Val Asp Leu Leu Asn Gln Glu Ile Glu Phe Leu Lys
305                 310                 315                 320
Val Leu Tyr Asp Ala Glu Ile Ser Gln Ile His Gln Ser Val Thr Asp
                325                 330                 335
Thr Asn Val Ile Leu Ser Met Asp Asn Ser Arg Asn Leu Asp Leu Asp
            340                 345                 350
Ser Ile Ile Ala Glu Val Lys Ala Gln Tyr Glu Glu Ile Ala Gln Arg
        355                 360                 365
Ser Lys Glu Glu Ala Glu Ala Leu Tyr His Ser Lys Tyr Glu Glu Leu
    370                 375                 380
Gln Val Thr Val Gly Arg His Gly Asp Ser Leu Lys Glu Ile Lys Ile
385                 390                 395                 400
Glu Ile Ser Glu Leu Asn Arg Val Ile Gln Arg Leu Gln Gly Glu Ile
                405                 410                 415
Ala His Val Lys Lys Gln Cys Lys Asn Val Gln Asp Ala Ile Ala Asp
            420                 425                 430
Ala Glu Gln Arg Gly Glu His Ala Leu Lys Asp Ala Arg Asn Lys Leu
        435                 440                 445
Asn Asp Leu Glu Glu Ala Leu Gln Gln Ala Lys Glu Asp Leu Ala Arg
    450                 455                 460
Leu Leu Arg Asp Tyr Gln Glu Leu Met Asn Val Lys Leu Ala Leu Asp
465                 470                 475                 480
Val Glu Ile Ala Thr Tyr Arg Lys Leu Leu Glu Gly Glu Glu Cys Arg
                485                 490                 495
Met Ser Gly Asp Leu Ser Ser Asn Val Thr Val Ser Val Thr Ser Ser
            500                 505                 510
Thr Ile Ser Ser Asn Val Ala Ser Lys Ala Ala Phe Gly Gly Ser Gly
        515                 520                 525
Gly Arg Gly Ser Ser Ser Gly Gly Gly Tyr Ser Ser Gly Ser Ser Ser
    530                 535                 540
Tyr Gly Ser Gly Gly Arg Gln Ser Gly Ser Arg Gly Gly Ser Gly Gly
545                 550                 555                 560
Gly Gly Ser Ile Ser Gly Gly Gly Tyr Gly Ser Gly Gly Gly Ser Gly
                565                 570                 575
Gly Arg Tyr Gly Ser Gly Gly Gly Ser Lys Gly Gly Ser Ile Ser Gly
            580                 585                 590
Gly Gly Tyr Gly Ser Gly Gly Gly Lys His Ser Ser Gly Gly Gly Ser
        595                 600                 605
Arg Gly Gly Ser Ser Ser Gly Gly Gly Tyr Gly Ser Gly Gly Gly Gly
    610                 615                 620
Ser Ser Ser Val Lys Gly Ser Ser Gly Glu Ala Phe Gly Ser Ser Val
625                 630                 635                 640
Thr Phe Ser Phe Arg
                645
<210>  463

<211>  644

<212>  PRT

<213>  Homo sapiens


<400>  463
Met Ser Arg Gln Phe Ser Ser Arg Ser Gly Tyr Arg Ser Gly Gly Gly
1                   5                  10                  15
Phe Ser Ser Gly Ser Ala Gly Ile Ile Asn Tyr Gln Arg Arg Thr Thr
            20                  25                  30
```

Ser Ser Ser Thr Arg Arg Ser Gly Gly Gly Gly Gly Arg Phe Ser Ser
35 40 45
Cys Gly Gly Gly Gly Gly Ser Phe Gly Ala Gly Gly Gly Phe Gly Ser
50 55 60
Arg Ser Leu Val Asn Leu Gly Gly Ser Lys Ser Ile Ser Ile Ser Val
65 70 75 80
Ala Arg Gly Gly Gly Arg Gly Ser Gly Phe Gly Gly Gly Tyr Gly Gly
85 90 95
Gly Gly Phe Gly Gly Gly Gly Phe Gly Gly Gly Gly Phe Gly Gly Gly
100 105 110
Gly Ile Gly Gly Gly Gly Phe Gly Gly Phe Gly Ser Gly Gly Gly Gly
115 120 125
Phe Gly Gly Gly Gly Phe Gly Gly Gly Gly Tyr Gly Gly Gly Tyr Gly
130 135 140
Pro Val Cys Pro Pro Gly Gly Ile Gln Glu Val Thr Ile Asn Gln Ser
145 150 155 160
Leu Leu Gln Pro Leu Asn Val Glu Ile Asp Pro Glu Ile Gln Lys Val
165 170 175
Lys Ser Arg Glu Arg Glu Gln Ile Lys Ser Leu Asn Asn Gln Phe Ala
180 185 190
Ser Phe Ile Asp Lys Val Arg Phe Leu Glu Gln Gln Asn Gln Val Leu
195 200 205
Gln Thr Lys Trp Glu Leu Leu Gln Gln Val Asp Thr Ser Thr Arg Thr
210 215 220
His Asn Leu Glu Pro Tyr Phe Glu Ser Phe Ile Asn Asn Leu Arg Arg
225 230 235 240
Arg Val Asp Gln Leu Lys Ser Asp Gln Ser Arg Leu Asp Ser Glu Leu
245 250 255
Lys Asn Met Gln Asp Met Val Glu Asp Tyr Arg Asn Lys Tyr Glu Asp
260 265 270
Glu Ile Asn Lys Arg Thr Asn Ala Glu Asn Glu Phe Val Thr Ile Lys
275 280 285
Lys Asp Val Asp Gly Ala Tyr Met Thr Lys Val Asp Leu Gln Ala Lys
290 295 300
Leu Asp Asn Leu Gln Gln Glu Ile Asp Phe Leu Thr Ala Leu Tyr Gln
305 310 315 320
Ala Glu Leu Ser Gln Met Gln Thr Gln Ile Ser Glu Thr Asn Val Ile
325 330 335
Leu Ser Met Asp Asn Asn Arg Ser Leu Asp Leu Asp Ser Ile Ile Ala
340 345 350
Glu Val Lys Ala Gln Tyr Glu Asp Ile Ala Gln Lys Ser Lys Ala Glu
355 360 365
Ala Glu Ser Leu Tyr Gln Ser Lys Tyr Glu Glu Leu Gln Ile Thr Ala
370 375 380
Gly Arg His Gly Asp Ser Val Arg Asn Ser Lys Ile Glu Ile Ser Glu
385 390 395 400
Leu Asn Arg Val Ile Gln Arg Leu Arg Ser Glu Ile Asp Asn Val Lys
405 410 415
Lys Gln Ile Ser Asn Leu Gln Gln Ser Ile Ser Asp Ala Glu Gln Arg
420 425 430
Gly Glu Asn Ala Leu Lys Asp Ala Lys Asn Lys Leu Asn Asp Leu Glu
435 440 445
Asp Ala Leu Gln Gln Ala Lys Glu Asp Leu Ala Arg Leu Leu Arg Asp
450 455 460
Tyr Gln Glu Leu Met Asn Thr Lys Leu Ala Leu Asp Leu Glu Ile Ala
465 470 475 480
Thr Tyr Arg Thr Leu Leu Glu Gly Glu Glu Ser Arg Met Ser Gly Glu
485 490 495
Cys Ala Pro Asn Val Ser Val Ser Val Ser Thr Ser His Thr Thr Ile
500 505 510
Ser Gly Gly Gly Ser Arg Gly Gly Gly Gly Gly Gly Tyr Gly Ser Gly
515 520 525
Gly Ser Ser Tyr Gly Ser Gly Gly Gly Ser Tyr Gly Ser Gly Gly Gly
530 535 540
Gly Gly Gly Gly Arg Gly Ser Tyr Gly Ser Gly Gly Ser Ser Tyr Gly
545 550 555 560

Ser Gly Gly Gly Ser Tyr Gly Ser Gly Gly Gly Gly Gly Gly His Gly
565 570 575
Ser Tyr Gly Ser Gly Ser Ser Ser Gly Gly Tyr Arg Gly Gly Ser Gly
580 585 590
Gly Gly Gly Gly Gly Ser Ser Gly Gly Arg Gly Ser Gly Gly Gly Ser
595 600 605
Ser Gly Gly Ser Ile Gly Gly Arg Gly Ser Ser Ser Gly Gly Val Lys
610 615 620
Ser Ser Gly Gly Ser Ser Ser Val Arg Phe Val Ser Thr Thr Tyr Ser
625 630 635 640
Gly Val Thr Arg

<210> 464

<211> 629

<212> PRT

<213> Homo sapiens

<400> 464
Met Ser Arg Gln Ala Ser Lys Thr Ser Gly Gly Gly Ser Gln Gly Phe
1 5 10 15
Ser Gly Arg Ser Ala Val Val Ser Gly Ser Ser Arg Met Ser Cys Val
20 25 30
Ala His Ser Gly Gly Ala Gly Gly Gly Ala Tyr Gly Phe Arg Ser Gly
35 40 45
Ala Gly Gly Phe Gly Ser Arg Ser Leu Tyr Asn Leu Gly Gly Asn Lys
50 55 60
Ser Ile Ser Ile Ser Val Ala Ala Gly Gly Ser Arg Ala Gly Gly Phe
65 70 75 80
Gly Gly Gly Arg Ser Ser Cys Ala Phe Ala Gly Gly Tyr Gly Gly Gly
85 90 95
Phe Gly Ser Gly Tyr Gly Gly Gly Phe Gly Gly Gly Phe Gly Gly Gly
100 105 110
Arg Gly Met Gly Gly Gly Phe Gly Gly Ala Gly Gly Phe Gly Gly Ala
115 120 125
Gly Gly Phe Gly Gly Ala Gly Gly Phe Gly Gly Pro Gly Gly Phe Gly
130 135 140
Gly Ser Gly Gly Phe Gly Gly Pro Gly Ser Leu Gly Ser Pro Gly Gly
145 150 155 160
Phe Ala Pro Gly Gly Phe Pro Gly Gly Ile Gln Glu Val Thr Thr Asn
165 170 175
Gln Ser Leu Leu Gln Pro Leu Lys Val Glu Thr Asp Pro Gln Ile Gly
180 185 190
Gln Val Lys Ala Gln Glu Arg Glu Gln Ile Lys Thr Leu Asn Asn Lys
195 200 205
Phe Ala Ser Phe Ile Asp Lys Val Arg Phe Leu Glu Gln Gln Asn Lys
210 215 220
Val Leu Glu Thr Lys Trp Asn Leu Leu Gln Gln Gln Gly Thr Ser Ser
225 230 235 240
Ile Ser Gly Thr Asn Asn Leu Glu Pro Leu Phe Glu Asn His Ile Asn
245 250 255
Tyr Leu Arg Ser Tyr Leu Asp Asn Ile Leu Gly Glu Arg Gly Arg Leu
260 265 270
Asp Ser Glu Leu Lys Asn Met Glu Asp Leu Val Glu Asp Phe Lys Lys
275 280 285
Lys Tyr Glu Asp Glu Ile Asn Lys Arg Thr Ala Ala Glu Asn Glu Phe
290 295 300
Val Thr Leu Lys Lys Asp Val Asp Ser Ala Tyr Met Asn Lys Val Glu
305 310 315 320
Leu Gln Ala Lys Val Asp Ala Leu Ile Asp Glu Ile Asp Phe Leu Arg
325 330 335

```
Thr Leu Tyr Asp Ala Glu Leu Ser Gln Met Gln Ser His Ile Ser Asp
            340                 345                 350
Thr Ser Val Val Leu Ser Met Asp Asn Asn Arg Ser Leu Asp Leu Asp
        355                 360                 365
Ser Ile Ile Ala Glu Val Gly Ala Gln Tyr Glu Asp Ile Ala Gln Arg
    370                 375                 380
Ser Lys Ala Glu Ala Glu Ala Leu Tyr Gln Thr Lys Leu Gly Glu Leu
385                 390                 395                 400
Gln Thr Thr Ala Gly Arg His Gly Asp Asp Leu Arg Asn Thr Lys Ser
                405                 410                 415
Glu Ile Ile Glu Leu Asn Arg Met Ile Gln Arg Leu Arg Ala Glu Ile
            420                 425                 430
Glu Gly Val Lys Lys Gln Asn Ala Asn Leu Gln Thr Ala Ile Ala Gln
        435                 440                 445
Ala Glu Gln His Gly Glu Met Ala Leu Lys Asp Ala Asn Ala Lys Leu
    450                 455                 460
Gln Glu Leu Gln Ala Ala Leu Gln Gln Ala Lys Asp Asp Leu Ala Arg
465                 470                 475                 480
Leu Leu Arg Asp Tyr Gln Glu Leu Met Asn Val Lys Leu Ala Leu Asp
                485                 490                 495
Val Glu Ile Ala Thr Tyr Arg Lys Leu Leu Glu Gly Glu Glu Tyr Ser
            500                 505                 510
Arg Met Ser Gly Glu Cys Pro Ser Ala Val Ser Ile Ser Val Val Ser
        515                 520                 525
Ser Ser Thr Thr Ser Ala Ser Ala Gly Gly Tyr Gly Gly Gly Tyr Gly
    530                 535                 540
Gly Gly Met Gly Gly Gly Leu Gly Gly Gly Phe Ser Ala Gly Gly Gly
545                 550                 555                 560
Ser Gly Ile Gly Phe Gly Arg Gly Gly Gly Gly Gly Ile Gly Gly Gly
                565                 570                 575
Phe Gly Gly Gly Thr Ser Gly Phe Ser Gly Gly Ser Gly Phe Gly Ser
            580                 585                 590
Ile Ser Gly Ala Arg Tyr Gly Val Ser Gly Gly Gly Phe Ser Ser Ala
        595                 600                 605
Ser Asn Arg Gly Gly Ser Ile Lys Phe Ser Gln Ser Ser Gln Ser Ser
    610                 615                 620
Gln Arg Tyr Ser Arg
625
<210>  465

<211>  534

<212>  PRT

<213>  Homo sapiens


<400>  465
Met Ile Ala Arg Gln Gln Cys Val Arg Gly Gly Pro Arg Gly Phe Ser
1               5                   10                  15
Cys Gly Ser Ala Ile Val Gly Gly Gly Lys Arg Gly Ala Phe Ser Ser
            20                  25                  30
Val Ser Met Ser Gly Gly Ala Gly Arg Cys Ser Ser Gly Gly Phe Gly
        35                  40                  45
Ser Arg Ser Leu Tyr Asn Leu Arg Gly Asn Lys Ser Ile Ser Met Ser
    50                  55                  60
Val Ala Gly Ser Arg Gln Gly Ala Cys Phe Gly Gly Ala Gly Gly Phe
65                  70                  75                  80
Gly Thr Gly Gly Phe Gly Ala Gly Gly Phe Gly Ala Gly Phe Gly Thr
                85                  90                  95
Gly Gly Phe Gly Gly Gly Phe Gly Gly Ser Phe Ser Gly Lys Gly Gly
            100                 105                 110
Pro Gly Phe Pro Val Cys Pro Ala Gly Gly Ile Gln Glu Val Thr Ile
        115                 120                 125
```

```
Asn Gln Ser Leu Leu Thr Pro Leu His Val Glu Ile Asp Pro Glu Ile
    130                 135                 140
Gln Lys Val Arg Thr Glu Glu Arg Glu Gln Ile Lys Leu Leu Asn Asn
145                 150                 155                 160
Lys Phe Ala Ser Phe Ile Asp Lys Val Gln Phe Leu Glu Gln Gln Asn
                165                 170                 175
Lys Val Leu Glu Thr Lys Trp Asn Leu Leu Gln Gln Gln Thr Thr Thr
            180                 185                 190
Thr Ser Ser Lys Asn Leu Glu Pro Leu Phe Glu Thr Tyr Leu Ser Val
        195                 200                 205
Leu Arg Lys Gln Leu Asp Thr Leu Gly Asn Asp Lys Gly Arg Leu Gln
    210                 215                 220
Ser Glu Leu Lys Thr Met Gln Asp Ser Val Glu Asp Phe Lys Thr Lys
225                 230                 235                 240
Tyr Glu Glu Glu Ile Asn Lys Arg Thr Ala Ala Glu Asn Asp Phe Val
                245                 250                 255
Val Leu Lys Lys Asp Val Asp Ala Ala Tyr Leu Asn Lys Val Glu Leu
            260                 265                 270
Glu Ala Lys Val Asp Ser Leu Asn Asp Glu Ile Asn Phe Leu Lys Val
        275                 280                 285
Leu Tyr Asp Ala Glu Leu Ser Gln Met Gln Thr His Val Ser Asp Thr
    290                 295                 300
Ser Val Val Leu Ser Met Asp Asn Asn Arg Asn Leu Asp Leu Asp Ser
305                 310                 315                 320
Ile Ile Ala Glu Val Arg Ala Gln Tyr Glu Glu Ile Ala Gln Arg Ser
                325                 330                 335
Lys Ala Glu Ala Glu Ala Leu Tyr Gln Thr Lys Val Gln Gln Leu Gln
            340                 345                 350
Ile Ser Val Asp Gln His Gly Asp Asn Leu Lys Asn Thr Lys Ser Glu
        355                 360                 365
Ile Ala Glu Leu Asn Arg Met Ile Gln Arg Leu Arg Ala Glu Ile Glu
    370                 375                 380
Asn Ile Lys Lys Gln Cys Gln Thr Leu Gln Val Ser Val Ala Asp Ala
385                 390                 395                 400
Glu Gln Arg Gly Glu Asn Ala Leu Lys Asp Ala His Ser Lys Arg Val
                405                 410                 415
Glu Leu Glu Ala Ala Leu Gln Gln Ala Lys Glu Glu Leu Ala Arg Met
            420                 425                 430
Leu Arg Glu Tyr Gln Glu Leu Met Ser Val Lys Leu Ala Leu Asp Ile
        435                 440                 445
Glu Ile Ala Thr Tyr Arg Lys Leu Leu Glu Gly Glu Glu Tyr Arg Met
    450                 455                 460
Ser Gly Glu Cys Gln Ser Ala Val Ser Ile Ser Val Val Ser Gly Ser
465                 470                 475                 480
Thr Ser Thr Gly Gly Ile Ser Gly Gly Leu Gly Ser Gly Ser Gly Phe
                485                 490                 495
Gly Leu Ser Ser Gly Phe Gly Ser Gly Ser Gly Ser Gly Phe Gly Phe
            500                 505                 510
Gly Gly Ser Val Ser Gly Ser Ser Ser Ser Lys Ile Ile Ser Thr Thr
        515                 520                 525
Thr Leu Asn Lys Arg Arg
    530
<210>  466

<211>  483

<212>  PRT

<213>  Homo sapiens


<400>  466
Met Ser Ile Arg Val Thr Gln Lys Ser Tyr Lys Val Ser Thr Ser Gly
1               5                   10                  15
```

```
Pro Arg Ala Phe Ser Ser Arg Ser Tyr Thr Ser Gly Pro Gly Ser Arg
                20                  25                  30
Ile Ser Ser Ser Ser Phe Ser Arg Val Gly Ser Ser Asn Phe Arg Gly
            35                  40                  45
Gly Leu Gly Gly Gly Tyr Gly Gly Ala Ser Gly Met Gly Gly Ile Thr
    50                  55                  60
Ala Val Thr Val Asn Gln Ser Leu Leu Ser Pro Leu Val Leu Glu Val
65                  70                  75                  80
Asp Pro Asn Ile Gln Ala Val Arg Thr Gln Glu Lys Glu Gln Ile Lys
                85                  90                  95
Thr Leu Asn Asn Lys Phe Ala Ser Phe Ile Asp Lys Val Arg Phe Leu
            100                 105                 110
Glu Gln Gln Asn Lys Met Leu Glu Thr Lys Trp Ser Leu Leu Gln Gln
        115                 120                 125
Gln Lys Thr Ala Arg Ser Asn Met Asp Asn Met Phe Glu Ser Tyr Ile
    130                 135                 140
Asn Asn Leu Arg Arg Gln Leu Glu Thr Leu Gly Gln Glu Lys Leu Lys
145                 150                 155                 160
Leu Glu Ala Glu Leu Gly Asn Met Gln Gly Leu Val Glu Asp Phe Lys
                165                 170                 175
Asn Lys Tyr Glu Asp Glu Ile Asn Lys Arg Thr Glu Met Glu Asn Glu
            180                 185                 190
Phe Val Leu Ile Lys Lys Asp Val Asp Glu Ala Tyr Met Asn Lys Val
        195                 200                 205
Glu Leu Glu Ser Arg Leu Glu Gly Leu Thr Asp Glu Ile Asn Phe Leu
    210                 215                 220
Arg Gln Leu Tyr Glu Glu Glu Ile Arg Glu Leu Gln Ser Gln Ile Ser
225                 230                 235                 240
Asp Thr Ser Val Val Leu Ser Met Asp Asn Ser Arg Ser Leu Asp Met
                245                 250                 255
Asp Ser Ile Ile Ala Glu Val Lys Ala Gln Tyr Glu Asp Ile Ala Asn
            260                 265                 270
Arg Ser Arg Ala Glu Ala Glu Ser Met Tyr Gln Ile Lys Tyr Glu Glu
        275                 280                 285
Leu Gln Ser Leu Ala Gly Lys His Gly Asp Asp Leu Arg Arg Thr Lys
    290                 295                 300
Thr Glu Ile Ser Glu Met Asn Arg Asn Ile Ser Arg Leu Gln Ala Glu
305                 310                 315                 320
Ile Glu Gly Leu Lys Gly Gln Arg Ala Ser Leu Glu Ala Ala Ile Ala
                325                 330                 335
Asp Ala Glu Gln Arg Gly Glu Leu Ala Ile Lys Asp Ala Asn Ala Lys
            340                 345                 350
Leu Ser Glu Leu Glu Ala Ala Leu Gln Arg Ala Lys Gln Asp Met Ala
        355                 360                 365
Arg Gln Leu Arg Glu Tyr Gln Glu Leu Met Asn Val Lys Leu Ala Leu
    370                 375                 380
Asp Ile Glu Ile Ala Thr Tyr Arg Lys Leu Leu Glu Gly Glu Glu Ser
385                 390                 395                 400
Arg Leu Glu Ser Gly Met Gln Asn Met Ser Ile His Thr Lys Thr Thr
                405                 410                 415
Ser Gly Tyr Ala Gly Gly Leu Ser Ser Ala Tyr Gly Gly Leu Thr Ser
            420                 425                 430
Pro Gly Leu Ser Tyr Ser Leu Gly Ser Ser Phe Gly Ser Gly Ala Gly
        435                 440                 445
Ser Ser Ser Phe Ser Arg Thr Ser Ser Ser Arg Ala Val Val Val Lys
    450                 455                 460
Lys Ile Glu Thr Arg Asp Gly Lys Leu Val Ser Glu Ser Ser Asp Val
465                 470                 475                 480
Leu Pro Lys
```

<210> 467

<211> 430

<212> PRT

<213> Homo sapiens

<400> 467

```
Met Ser Phe Thr Thr Arg Ser Thr Phe Ser Thr Asn Tyr Arg Ser Leu
1               5                  10                  15
Gly Ser Val Gln Ala Pro Ser Tyr Gly Ala Arg Pro Val Ser Ser Ala
            20                  25                  30
Ala Ser Val Tyr Ala Gly Ala Gly Gly Ser Gly Ser Arg Ile Ser Val
        35                  40                  45
Ser Arg Ser Thr Ser Phe Arg Gly Gly Met Gly Ser Gly Gly Leu Ala
    50                  55                  60
Thr Gly Ile Ala Gly Gly Leu Ala Gly Met Gly Gly Ile Gln Asn Glu
65                  70                  75                  80
Lys Glu Thr Met Gln Ser Leu Asn Asp Arg Leu Ala Ser Tyr Leu Asp
                85                  90                  95
Arg Val Arg Ser Leu Glu Thr Glu Asn Arg Arg Leu Glu Ser Lys Ile
            100                 105                 110
Arg Glu His Leu Glu Lys Lys Gly Pro Gln Val Arg Asp Trp Ser His
        115                 120                 125
Tyr Phe Lys Ile Ile Glu Asp Leu Arg Ala Gln Ile Phe Ala Asn Thr
    130                 135                 140
Val Asp Asn Ala Arg Ile Val Leu Gln Ile Asp Asn Ala Arg Leu Ala
145                 150                 155                 160
Ala Asp Asp Phe Arg Val Lys Tyr Glu Thr Glu Leu Ala Met Arg Gln
                165                 170                 175
Ser Val Glu Asn Asp Ile His Gly Leu Arg Lys Val Ile Asp Asp Thr
            180                 185                 190
Asn Ile Thr Arg Leu Gln Leu Glu Thr Glu Ile Glu Ala Leu Lys Glu
        195                 200                 205
Glu Leu Leu Phe Met Lys Lys Asn His Glu Glu Glu Val Lys Gly Leu
    210                 215                 220
Gln Ala Gln Ile Ala Ser Ser Gly Leu Thr Val Glu Val Asp Ala Pro
225                 230                 235                 240
Lys Ser Gln Asp Leu Ala Lys Ile Met Ala Asp Ile Arg Ala Gln Tyr
                245                 250                 255
Asp Glu Leu Ala Arg Lys Asn Arg Glu Glu Leu Asp Lys Tyr Trp Ser
            260                 265                 270
Gln Gln Ile Glu Glu Ser Thr Thr Val Val Thr Thr Gln Ser Ala Glu
        275                 280                 285
Val Gly Ala Ala Glu Thr Thr Leu Thr Glu Leu Arg Arg Thr Val Gln
    290                 295                 300
Ser Leu Glu Ile Asp Leu Asp Ser Met Arg Asn Leu Lys Ala Ser Leu
305                 310                 315                 320
Glu Asn Ser Leu Arg Glu Val Glu Ala Arg Tyr Ala Leu Gln Met Glu
                325                 330                 335
Gln Leu Asn Gly Ile Leu Leu His Leu Glu Ser Glu Leu Ala Gln Thr
            340                 345                 350
Arg Ala Glu Gly Gln Arg Gln Ala Gln Glu Tyr Glu Ala Leu Leu Asn
        355                 360                 365
Ile Lys Val Lys Leu Glu Ala Glu Ile Ala Thr Tyr Arg Arg Leu Leu
    370                 375                 380
Glu Asp Gly Glu Asp Phe Asn Leu Gly Asp Ala Leu Asp Ser Ser Asn
385                 390                 395                 400
Ser Met Gln Thr Ile Gln Lys Thr Thr Thr Arg Arg Ile Val Asp Gly
                405                 410                 415
Lys Val Val Ser Glu Thr Asn Asp Thr Lys Val Leu Arg His
            420                 425                 430
```

<210> 468

<211> 392

<212> PRT

<213> Homo sapiens

<400> 468
Met Val Ala Arg Val Gly Leu Leu Leu Arg Ala Leu Gln Leu Leu Leu
1 5 10 15
Trp Gly His Leu Asp Ala Gln Pro Ala Glu Arg Gly Gly Gln Glu Leu
20 25 30
Arg Lys Glu Ala Glu Ala Phe Leu Glu Lys Tyr Gly Tyr Leu Asn Glu
35 40 45
Gln Val Pro Lys Ala Pro Thr Ser Thr Arg Phe Ser Asp Ala Ile Arg
50 55 60
Ala Phe Gln Trp Val Ser Gln Leu Pro Val Ser Gly Val Leu Asp Arg
65 70 75 80
Ala Thr Leu Arg Gln Met Thr Arg Pro Arg Cys Gly Val Thr Asp Thr
85 90 95
Asn Ser Tyr Ala Ala Trp Ala Glu Arg Ile Ser Asp Leu Phe Ala Arg
100 105 110
His Arg Thr Lys Met Arg Arg Lys Lys Arg Phe Ala Lys Gln Gly Asn
115 120 125
Lys Trp Tyr Lys Gln His Leu Ser Tyr Arg Leu Val Asn Trp Pro Glu
130 135 140
His Leu Pro Glu Pro Ala Val Arg Gly Ala Val Arg Ala Ala Phe Gln
145 150 155 160
Leu Trp Ser Asn Val Ser Ala Leu Glu Phe Trp Glu Ala Pro Ala Thr
165 170 175
Gly Pro Ala Asp Ile Arg Leu Thr Phe Phe Gln Gly Asp His Asn Asp
180 185 190
Gly Leu Gly Asn Ala Phe Asp Gly Pro Gly Gly Ala Leu Ala His Ala
195 200 205
Phe Leu Pro Arg Arg Gly Glu Ala His Phe Asp Gln Asp Glu Arg Trp
210 215 220
Ser Leu Ser Arg Arg Arg Gly Arg Asn Leu Phe Val Val Leu Ala His
225 230 235 240
Glu Ile Gly His Thr Leu Gly Leu Thr His Ser Pro Ala Pro Arg Ala
245 250 255
Leu Met Ala Pro Tyr Tyr Lys Arg Leu Gly Arg Asp Ala Leu Leu Ser
260 265 270
Trp Asp Asp Val Leu Ala Val Gln Ser Leu Tyr Gly Lys Pro Leu Gly
275 280 285
Gly Ser Val Ala Val Gln Leu Pro Gly Lys Leu Phe Thr Asp Phe Glu
290 295 300
Thr Trp Asp Ser Tyr Ser Pro Gln Gly Arg Arg Pro Glu Thr Gln Gly
305 310 315 320
Pro Lys Tyr Cys His Ser Ser Phe Asp Ala Ile Thr Val Asp Arg Gln
325 330 335
Gln Gln Leu Tyr Ile Phe Lys Gly Ser His Phe Trp Glu Val Ala Ala
340 345 350
Asp Gly Asn Val Ser Glu Pro Arg Pro Leu Gln Glu Arg Trp Val Gly
355 360 365
Leu Pro Pro Asn Ile Glu Ala Ala Ala Val Ser Leu Asn Asp Gly Asp
370 375 380
Phe Tyr Phe Phe Lys Val Gln Ser
385 390

<210> 469

<211> 851

<212> PRT

<213> Homo sapiens

<400> 469
Met Ala Gln Trp Glu Met Leu Gln Asn Leu Asp Ser Pro Phe Gln Asp
1 5 10 15
Gln Leu His Gln Leu Tyr Ser His Ser Leu Leu Pro Val Asp Ile Arg
20 25 30
Gln Tyr Leu Ala Val Trp Ile Glu Asp Gln Asn Trp Gln Glu Ala Ala
35 40 45
Leu Gly Ser Asp Asp Ser Lys Ala Thr Met Leu Phe Phe His Phe Leu
50 55 60
Asp Gln Leu Asn Tyr Glu Cys Gly Arg Cys Ser Gln Asp Pro Glu Ser
65 70 75 80
Leu Leu Leu Gln His Asn Leu Arg Lys Phe Cys Arg Asp Ile Gln Pro
85 90 95
Phe Ser Gln Asp Pro Thr Gln Leu Ala Glu Met Ile Phe Asn Leu Leu
100 105 110
Leu Glu Glu Lys Arg Ile Leu Ile Gln Ala Gln Arg Ala Gln Leu Glu
115 120 125
Gln Gly Glu Pro Val Leu Glu Thr Pro Val Glu Ser Gln Gln His Glu
130 135 140
Ile Glu Ser Arg Ile Leu Asp Leu Arg Ala Met Met Glu Lys Leu Val
145 150 155 160
Lys Ser Ile Ser Gln Leu Lys Asp Gln Gln Asp Val Phe Cys Phe Arg
165 170 175
Tyr Lys Ile Gln Ala Lys Gly Lys Thr Pro Ser Leu Asp Pro His Gln
180 185 190
Thr Lys Glu Gln Lys Ile Leu Gln Glu Thr Leu Asn Glu Leu Asp Lys
195 200 205
Arg Arg Lys Glu Val Leu Asp Ala Ser Lys Ala Leu Leu Gly Arg Leu
210 215 220
Thr Thr Leu Ile Glu Leu Leu Leu Pro Lys Leu Glu Glu Trp Lys Ala
225 230 235 240
Gln Gln Gln Lys Ala Cys Ile Arg Ala Pro Ile Asp His Gly Leu Glu
245 250 255
Gln Leu Glu Thr Trp Phe Thr Ala Gly Ala Lys Leu Leu Phe His Leu
260 265 270
Arg Gln Leu Leu Lys Glu Leu Lys Gly Leu Ser Cys Leu Val Ser Tyr
275 280 285
Gln Asp Asp Pro Leu Thr Lys Gly Val Asp Leu Arg Asn Ala Gln Val
290 295 300
Thr Glu Leu Leu Gln Arg Leu Leu His Arg Ala Phe Val Val Glu Thr
305 310 315 320
Gln Pro Cys Met Pro Gln Thr Pro His Arg Pro Leu Ile Leu Lys Thr
325 330 335
Gly Ser Lys Phe Thr Val Arg Thr Arg Leu Leu Val Arg Leu Gln Glu
340 345 350
Gly Asn Glu Ser Leu Thr Val Glu Val Ser Ile Asp Arg Asn Pro Pro
355 360 365
Gln Leu Gln Gly Phe Arg Lys Phe Asn Ile Leu Thr Ser Asn Gln Lys
370 375 380
Thr Leu Thr Pro Glu Lys Gly Gln Ser Gln Gly Leu Ile Trp Asp Phe
385 390 395 400
Gly Tyr Leu Thr Leu Val Glu Gln Arg Ser Gly Gly Ser Gly Lys Gly
405 410 415
Ser Asn Lys Gly Pro Leu Gly Val Thr Glu Glu Leu His Ile Ile Ser
420 425 430
Phe Thr Val Lys Tyr Thr Tyr Gln Gly Leu Lys Gln Glu Leu Lys Thr
435 440 445
Asp Thr Leu Pro Val Val Ile Ile Ser Asn Met Asn Gln Leu Ser Ile
450 455 460
Ala Trp Ala Ser Val Leu Trp Phe Asn Leu Leu Ser Pro Asn Leu Gln
465 470 475 480
Asn Gln Gln Phe Phe Ser Asn Pro Pro Lys Ala Pro Trp Ser Leu Leu
485 490 495
Gly Pro Ala Leu Ser Trp Gln Phe Ser Ser Tyr Val Gly Arg Gly Leu
500 505 510

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Asn Ser Asp Gln Leu Ser Met Leu Arg Asn Lys Leu Phe Gly Gln Asn
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Cys Arg Thr Glu Asp Pro Leu Leu Ser Trp Ala Asp Phe Thr Lys Arg
    530                 535                 540
Glu Ser Pro Pro Gly Lys Leu Pro Phe Trp Thr Trp Leu Asp Lys Ile
545                 550                 555                 560
Leu Glu Leu Val His Asp His Leu Lys Asp Leu Trp Asn Asp Gly Arg
                565                 570                 575
Ile Met Gly Phe Val Ser Arg Ser Gln Glu Arg Arg Leu Leu Lys Lys
            580                 585                 590
Thr Met Ser Gly Thr Phe Leu Leu Arg Phe Ser Glu Ser Ser Glu Gly
        595                 600                 605
Gly Ile Thr Cys Ser Trp Val Glu His Gln Asp Asp Lys Val Leu
    610                 615                 620
Ile Tyr Ser Val Gln Pro Tyr Thr Lys Glu Val Leu Gln Ser Leu Pro
625                 630                 635                 640
Leu Thr Glu Ile Ile Arg His Tyr Gln Leu Leu Thr Glu Glu Asn Ile
                645                 650                 655
Pro Glu Asn Pro Leu Arg Phe Leu Tyr Pro Arg Ile Pro Arg Asp Glu
            660                 665                 670
Ala Phe Gly Cys Tyr Tyr Gln Glu Lys Val Asn Leu Gln Glu Arg Arg
        675                 680                 685
Lys Tyr Leu Lys His Arg Leu Ile Val Val Ser Asn Arg Gln Val Asp
    690                 695                 700
Glu Leu Gln Gln Pro Leu Glu Leu Lys Pro Glu Pro Glu Leu Glu Ser
705                 710                 715                 720
Leu Glu Leu Glu Leu Gly Leu Val Pro Glu Pro Glu Leu Ser Leu Asp
                725                 730                 735
Leu Glu Pro Leu Leu Lys Ala Gly Leu Asp Leu Gly Pro Glu Leu Glu
            740                 745                 750
Ser Val Leu Glu Ser Thr Leu Glu Pro Val Ile Glu Pro Thr Leu Cys
        755                 760                 765
Met Val Ser Gln Thr Val Pro Glu Pro Asp Gln Gly Pro Val Ser Gln
    770                 775                 780
Pro Val Pro Glu Pro Asp Leu Pro Cys Asp Leu Arg His Leu Asn Thr
785                 790                 795                 800
Glu Pro Met Glu Ile Phe Arg Asn Cys Val Lys Ile Glu Glu Ile Met
                805                 810                 815
Pro Asn Gly Asp Pro Leu Leu Ala Gly Gln Asn Thr Val Asp Glu Val
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Tyr Val Ser Arg Pro Ser His Phe Tyr Thr Asp Gly Pro Leu Met Pro
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Ser Asp Phe
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            20                  25                  30
Ile Asn Asp Pro Phe Ile Asp Leu Asn Tyr Met Val Tyr Met Phe Gln
        35                  40                  45
Tyr Asp Ser Thr His Gly Lys Phe His Gly Thr Val Lys Ala Glu Asn
    50                  55                  60
Gly Lys Leu Val Ile Asn Gly Asn Pro Ile Thr Ile Phe Gln Glu Arg
65                  70                  75                  80
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Glu Ser Thr Gly Val Phe Thr Thr Met Glu Lys Ala Gly Ala His Leu
            100                 105                 110
Gln Gly Gly Ala Lys Arg Val Ile Ile Ser Ala Pro Ser Ala Asp Ala
        115                 120                 125
Pro Met Phe Val Met Gly Val Asn His Glu Lys Tyr Asp Asn Ser Leu
    130                 135                 140
Lys Ile Ile Ser Asn Ala Ser Cys Thr Thr Asn Cys Leu Ala Pro Leu
145                 150                 155                 160
Ala Lys Val Ile His Asp Asn Phe Gly Ile Val Glu Gly Leu Met Thr
                165                 170                 175
Thr Val His Ala Ile Thr Ala Thr Gln Lys Thr Val Asp Gly Pro Ser
            180                 185                 190
Gly Lys Leu Trp Arg Asp Gly Arg Gly Ala Leu Gln Asn Ile Ile Pro
        195                 200                 205
Ala Ser Thr Gly Ala Ala Lys Ala Val Gly Lys Val Ile Pro Glu Leu
    210                 215                 220
Asn Gly Lys Leu Thr Gly Met Ala Phe Arg Val Pro Thr Ala Asn Val
225                 230                 235                 240
Ser Val Val Asp Leu Thr Cys Arg Leu Glu Lys Pro Ala Lys Tyr Asp
                245                 250                 255
Asp Ile Lys Lys Val Val Lys Gln Ala Ser Glu Gly Pro Leu Lys Gly
            260                 265                 270
Ile Leu Gly Tyr Thr Glu His Gln Val Val Ser Ser Asp Phe Asn Ser
        275                 280                 285
Asp Thr His Ser Ser Thr Phe Asp Ala Gly Ala Gly Ile Ala Leu Asn
    290                 295                 300
Asp His Phe Val Lys Leu Ile Ser Trp Tyr Asp Asn Glu Phe Gly Tyr
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